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ABSTRACT

This report outlines development of a plan for assessing state and local efforts in the elimination of sex bias and discrimination in vocational education in Illinois. The first section presents in chart form the review of Department of Adult, Vocational, and Technical Education data sources on sex equity. The second section contains the Plan to Assess State and Local Practices in Elimination of Sex Bias. Utilization of in-place systems is first described. Next addressed is the assessment methodology for use of the fixed-alternative interview schedule and questionnaire. A Time Line for Assessment of State and Local Practices follows. The Sex Equity Assessment Interview Schedule and Assessment Questionnaire are then provided with directions for use and suggested reporting procedures. These other project documents are attached: review of literature reflecting status of sex equity in vocational education and annotated bibliography of selected sex equity materials and assessment plans produced by other states and federally funded projects. Appendixes include definitions of concepts related to sex equity, data sources questionnaire, and a chapter on survey research from a guidebook to action research. (YLB)

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A Plan to Assess State and Local Efforts in the Elimination of Sex Bias and Discrimination in Vocational Education in Illinois

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Historical Perspective

For the last three years, Roosevelt University's College of Education and the Department of Adult, Vocational and Technical Education of the Illinois State Board of Education have been engaged in a cooperative effort to provide structure and accountability to the infusion of sex equity into the conceptualization and delivery of vocational education. In 1978, Henrietta Schwartz directed the project which produced Progress Beyond Access, A Five-Year and Annual State Plan for Sex Equity in Vocational Education in Illinois. The format for collaborative and transactional development of that product was established, then, and has been continued in this project to plan to assess efforts for the state and local education agencies in the area of sex equity. The following document, A Plan to Assess State and Local Efforts in the Elimination of Sex Bias and Discrimination in Vocational Education in Illinois, represents the combined efforts of a number of individuals

First, appreciation must be extended to the Advisory Committee who spent many hours meeting with Roosevelt staff members, responded to questionnaires and shared with staff the data sources incorporated into the plan. Second, the state and national review panel who read the draft plan and shared their insights with staff. Third, members of the staff of the Research and Development Center and faculty of the College of Education who shared information, articles and time for reflection, deserve our gratitude.

Finally, the project staff are most grateful to Peter Seidman, Jane Adair, Sandy Eells and John Washburn of the Department of Adult, Vocational and Technical Education for their cooperation, concern and countless hours working with us to develop what we feel is an assessment and data collection plan which can serve as a model for other agencies with similar responsibilities.

The plan is a model of transactional evaluation for it involves the evaluator and the participant agency to be evaluated, in the structuring of the design. Further, the plan does not call for the reinvention of the wheel; rather it uses existing data sources in a systematic and meaningful schedule. The plan provides for a multiple evaluation methodology in that it uses available data, easily administered and analyzed structured interviews and questionnaires, adequate and rigorous sampling procedures and ways of assessing processes as well as products. The plan is supported by an extensive review of the literature and is compatible with the locally directed evaluation and Three Phase Evaluation schemes already in place in the Illinois vocational education programs. Finally, the plan is theoretically based and consistent with the best traditions of action research. That is, the information derived from the application of the assessment plan can be used for informed decision-making by state and local education agencies.

It is only through a collaborative process that so comprehensive and wholistic a plan could have evolved. Again, gratitude is expressed to the staff of the Research and Development Section of DAVTE for their efforts. Their willingness to review materials, comment, critique, offer suggestions and work closely with us, enhances the utility and transportability of the plan.

Introduction and Theoretical Framework

This report outlines the development of a plan for assessing state and local efforts in the elimination of sex bias and discrimination in vocational education in Illinois. This plan was developed under Funding Agreement Number: R-31-11-D-2125-443 from the Department of Adult, Vocational and Technical Education (DAVTE) of the Illinois State Board of Education (ISBE). The plan was designed to meet criteria and needs identified in collaboration with a DAVTE designated Advisory Committee (See Appendix for List of Advisory Committee Members.) Since the plan was developed in this collaborative way, objectives and project activities shifted throughout most of the period of the project, November, 1980 - July, 1981, to meet emergent problems identified by the Advisory Committee and to reflect projected and perceived needs based on data analyses conducted by the Roosevelt Project Staff. In addition to internal Advisory Committee review, various components of a draft of the developed plan were subjected to Expert Review. (See Appendix for Expert Review Panel).

In 1978, the Research and Development Center of Roosevelt University was commissioned to develop an Annual and Five Year Plan to eliminate sex discrimination in vocational education programs in Illinois. The Plan and the Technical Report which summarized the development of the plan are fully described in other documents (Roosevelt University, College of Education, 1978). As part of the recommendations section of the 1978 Technical Report the Research and Development Center proposed a "Schematic Representation of a Proposed Monitoring System for the Implementation of Sex Equity in Vocational Education for the State of Illinois." The outline of the system proposed a systematic effort to monitor and evaluate the progress of local education agencies and the state to implement sex equity plans, to progress beyond access, that is, to take positive action to engage vocational educators in the field in continuous programs to promote sex equity. In the evaluation model outlined, the state agency was to monitor efforts of the local districts and its own efforts to achieve action beyond access in sex equity. The model used the evaluation plan currently in use by DAVTE, Locally Directed Evaluation and the Three Phase Evaluation System.

The accompanying flow chart (Progress Beyond Access Theoretical Model, Figure 1, 1978) represents a hypothesized model of interaction for elements influential to actualizing equal access to employment. This model provides a schematic form for understanding causes and effects.

Curriculum Development, Staff Development, Model Programs, and Policy Changes are summary categories of possible tactics for bringing about sex equity. Tactics in these categories used separately or in combination may have an effect upon student attitudes, choice of cooperative job training, and choices in vocations or careers. These attitudes and choices, in turn, have an effect upon employment.

If sufficiently detailed information on each of these aspects (all 8 circles) is systematically collected, progress toward sex equity can be charted and causal attributions can be inferred from the tactics employed. The aspects addressed directly by this project fall into the first 4 circles. Documentation of progress and knowledge about which tactics have been effective are important. These pieces of information can be useful to the State of Illinois for making management decisions about tactics. Also, this information will be useful to other states who wish to follow the lead of DAVTE - Illinois in implementing sex equity in vocational education.

Practical Implementation

This described Progress Beyond Access Theoretical Model, as depicted in

Figure 1

Hypothesized Model of Interaction (1979-1983)
Flow Chart for Progress Beyond Access in Sex Equity
in Vocational Education in Illinois

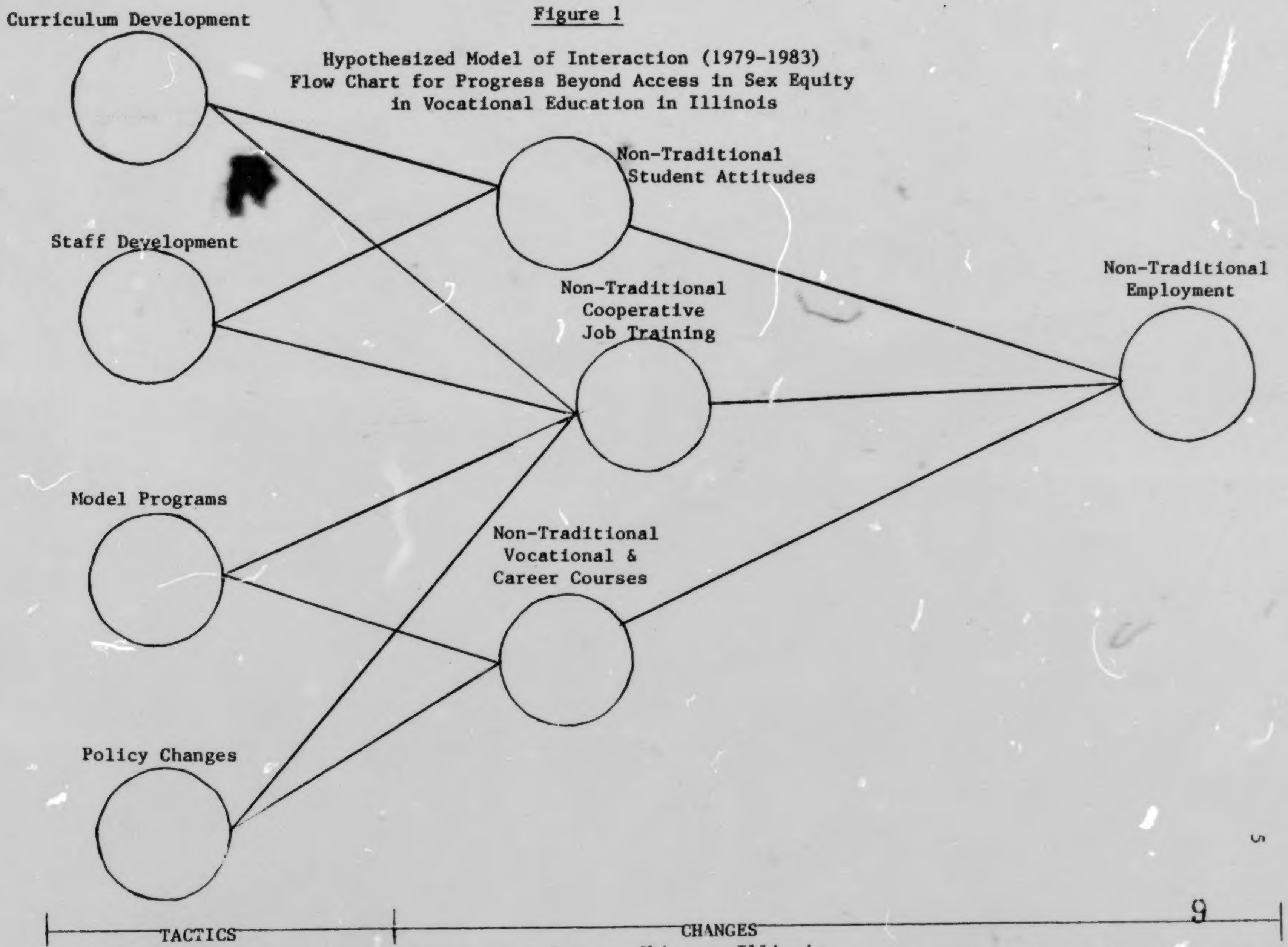
Curriculum Development
Staff Development
Model Programs
Policy Changes
Non-Traditional Student Attitudes
Non-Traditional Cooperative Job Training
Non-Traditional Vocational & Career Courses
Non-Traditional Employment
TACTICS
CHANGES

Figure 1, formed the conceptual basis for development of the Plan to Assess State and Local Efforts in Illinois. The charge of the project, under the terms of the contract, was to utilize the Progress Beyond Access Model as an assessment measure for existing ISBE data sources. Following the assessment of existing ISBE data sources, the project staff were asked to suggest modifications to in-place data systems and to recommend additional methods for data gathering. The additional data gathering methods were to be a separate system suitable for use by the Sex Equity Supervisor and others designated by the agency and to focus specifically on curriculum and staff development, since minor modifications could be made to the in-place data gathering system for policy. Model program data gathering was addressed by a related project. (Sex Equity Project, Technical Education Research Center Inc., Champaign, Illinois. DAVTE Funding Agreement No.: R-36-11-X-2124-442.)

The assessment of data sources occurred through the following means: DAVTE advisory committee meetings, interviews with DAVTE and other ISBE agency staff, interviews of the staff from related funded projects, interviews of field experts, survey of DAVTE Advisory Council Members, and content analysis of written documents and data systems existing in DAVTE.

Following the data assessment stage of the project, the analysis of ISBE materials received, revealed that Illinois has ample data sources in the area broadly described as Policy and Evaluation. Fewer sources appear to be available to assess the status of staff development and curricular activity in regard to sex equity. An Advisory Committee meeting was held and a decision made to make no changes in the formal evaluation portions of DAVTE mechanisms (Locally Directed Evaluations and 3 Phase Evaluation System). This decision was based on two factors: first, the Locally Directed Evaluation System was under revision by another project. (A draft of that Revision was reviewed; Locally Directed Evaluation Revision, University of Illinois. DAVTE Funding Agreement No.: R-36-11-D-0123-436.)

Second, past attempts to infuse greater numbers of questions relating specifically to sex equity had met with resistance and disfavor at the local level.

In addition, the project staff were directed to formulate suggested procedures for use by the Sex Equity Supervisor and other designated agency personnel in assessing staff development and curricular innovation efforts. The most useful systematic procedure that meets this advocacy stance, that of fostering staff development and curricular innovation, is a Structured Interview Approach. This approach provides opportunity for assessment of state and local agency/ school efforts. It can produce a rich data base that can be readily interpreted for identification of positive trends and needed remedial action. Additionally, the interview form can be structured for survey purposes, to assess and quantify limited portions of the range of topics included, in the structured interview form.

In the following pages the Plan to Assess State and Local Efforts in the Elimination of Sex Bias and Discrimination in Vocational Education in Illinois is presented. In the first section, the review of DAVTE (and related ISBE materials) data sources on sex equity is presented. This section contains findings, conclusions and recommendations based on the data analysis of these documents and potential data sources. The reviewed documents and processes were addressed from the point of view of sex equity alone and not a review of the documents and processes per se. In the second section of this report The Plan to Assess State and Local Efforts in the Elimination of Sex Bias and Discrimination in Vocational Education in Illinois is presented. A major portion of this plan is a fixed alternative interview schedule. The interview schedule is more visible than an infused assessment procedure; the consensus of the advisory committee was that sex equity in curricula and staff development should be highly visible. The visibility and importance of Sex Equity in Vocational Education can thus be enhanced through the systematic use of an interview schedule which underscores procedures and practices which require efforts beyond access. (Access and other terms and concepts that are related to the theoretical framework of this project, are included in the Appendix. The definitions emerged through collaboration by DAVTE and the Roosevelt University Project Staff, 1978.) Accompanying the interview schedule are directions for use, sampling procedures, compilation of data and suggested reporting procedures. Additionally, the survey format of the interview schedule is presented. Other documents produced by the project include an annotated bibliography of selected sex equity materials and assessment plans produced by other states and federally funded projects, and a review of the literature reflecting the status of sex equity in vocational education.

REVIEW OF DAVTE MATERIALS (AND RELATED ISBE MATERIALS) ON SEX EQUITY Nov.,1980-June,1981

Material, Title	Summary	Progress Beyond Access Categories	Potential Application for Sex Equity Assessment Plan
1. Teacher Service Record (TSR)	The TSR requests information from all teachers in each school district in the state of Illinois.	Policy	The TSR can be used to gain information about sex equity through the analysis of salary; teaching assignment; length of service; teacher qualifications for positions (i.e. administration)
2. Vocational Civil Rights Checklist for LEA's & Answer Key	The vocational checklist is a questionnaire developed by the state to allow school districts to determine their compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1973 and Section 504 of the Rehabilitation Act.	Policy	Although there are questions that address the issues of sex equity, the design of the questions is awkward. Questions that deal with all the areas that Title VI and Title IX address are lumped together which doesn't allow for analysis of the separate categories of race, sex or those with handicaps (e.g., see questions 2, 3a and 10).[1]
3. Completer/Leaver and Employer Follow-Up: A Cooperative Effort	This ISBE product is used to aid LEA's in implementing a new process for follow-up of vocational education program completer/leaver and their respective employers.	Policy	Although no specific questions address sex equity, this product could be used to provide a picture of non-traditional employment.
4. Vocational Education Program Planning	Prepared by the staff of DAVTE, its stated purpose is to assist local administrators and instructional staff to plan, implement, and evaluate quality vocational education programs.	Policy	None

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[1] This document has been modified, July 1981.

REVIEW OF DAVTE MATERIALS ON SEX EQUITY (cont'd)

Material, Title	Summary	Progress Beyond Access Categories	Potential Application for Sex Equity Assessment Plan
5. ISBE Publications from Research & Statistics (Nov., 1980)	The ISBE Publication contains a list of those publications that can be received from Research & Statistics.	Policy Staff Development	There are few publications that would provide current information in the formulation of a sex equity plan. Therefore, its use is minimal.
6. School Calendar & Fall Enrollment/Housing Report	Information that concerns auxiliary personnel as well as new hirees, non certified staff and the number of students being taught by grade level.	Policy	There are no questions that deal specifically with sex equity. The primary thrust behind the questions deals with compliance and elimination and prevention of racial segregation in schools.
7. Illinois Program for Evaluation, Supervision, and Recognition of Schools. (IPE)	The IPE sets forth the requirements for school districts throughout the state of Illinois.	Policy	None
8. School Evaluation Form (SEF)	Used by Recognition and Supervision staff during periodic school evaluations.	Policy	The SEF contains two probes that directly involve sex bias (#9 & 41). The data generated from the SEF probes is not aggregated and therefore its value is limited in summary use of compliance across and within school districts.
9. Data Elements Available in the Research & Statistics Section - A Classified Lising	This document contains a description of data elements collected in the Research & Statistics Section. The description/classification system was developed in an attempt to provide a concise listing of data elements.	Policy	Difficult to determine the value of this document. Its value may be in the instruments that can be obtained that are used to generate sex equity related data elements.

REVIEW OF DAVTE MATERIALS ON SEX EQUITY (cont'd)

Material, Title	Summary	Progress Beyond Access Categories	Potential Application for Sex Equity Assessment Plan
10. Approved Vocational Program Listing	This document provides a current coding of funded priority within the vocational education programs.	Policy	This listing could be used to determine sex equity in funding by determining the status of traditionally female programs with those of traditionally male programs.
11. 1970 Census Data	Demographic information for individual school districts throughout the state.	Policy	None. The 1980 Census Data might prove helpful, when available.
12. Equitunity in Vocational Education Administration Handbook for Administrators and Board Members	This publication is a comprehensive guide to assist public school administrators and members of boards of education to deal with changing perceptions of women in vocational education administration.	Policy	Advocacy Stance
13. Three Phase System For Statewide Evaluation of Vocational Education Programs Composite Evaluation Report/Vocational Education in the State of Illinois Fiscal Year 1980	This report is an in-depth analysis of the total vocational education programs being offered by local and state agencies. It is a cooperative effort of state and local vocational educators and has been organized as the Three Phase System for Statewide Evaluation of Vocational Programs. The current report represents the culmination of the 1979-80 analysis of vocational education in the State of Illinois.	Policy	In the evaluation report, Section G addresses the issue of Sex Equity. However, attempting to understand whether or not the concept of "Access Beyond" is included is at best problematic. Although this product is a policy document, imbedded in the conclusions drawn are potential items that contain both curriculum and staff development issues. There is a need to determine what is going on in individual school districts in the area of access beyond sex equity.

REVIEW OF DAVTE MATERIALS ON SEX EQUITY (cont'd)

Material, Title	Summary	Progress Beyond Access Categories	Potential Application for Sex Equity Assessment Plan
13. cont'd	The results of the 1979-80 analysis become a blueprint for program improvement activities in vocational education in the State of Illinois. The "Three Phase System for Statewide Evaluation of Vocational Education Programs," has three goals: 1. To promote and assist with the development of quality vocational education programs at the local level. 2. To provide the State Board with data upon which better statewide planning of vocational education programs can be based. 3. To help insure accountability of Federal and state funds allocated to local vocational education programs.		
14. Development of Procedures for Assessing the Impact of Vocational Education Research and Development on Vocational Education (Project Impact)	The purpose of Project Impact is to identify and develop procedures for complying with the impact requirement of Public Law 94-482 which specifies that contracts for Research and Development in vocational education would not be made unless the applicant could demonstrate a reasonable probability that the contract would result in	Policy	Although Access Beyond Sex Equity was not identified and examined as a case study, the methodology used in the other case studies provided would certainly be applicable.

REVIEW OF DAVTE MATERIALS ON SEX EQUITY (cont'd)

Material, Title	Summary	Progress Beyond Access Categories	Potential Application for Sex Equity Assessment Plan
14. cont'd	improved teaching techniques or curriculum materials that would be used in a substantial number of classrooms or other learning situations within five years after termination of such contracts. The study focused on three problem areas: 1. how to define impact; 2. how to assess impact; 3. how to show a cause-and-effect relationship between project activities and change in the vocational education teaching-learning situation.		
15. Rules and Regulations for the Administration of Vocational Programs/ Illinois State Board of Education	This document contains legal mandates generated by the ISBE.	Policy	None
16. Vocational Education Data System Report (VEDS)	This document contains instructions for completing forms that deal with: 1. Expenditures 2. Staff Enrollment 3. Special Counts	Policy Curriculum Development Staff Development	By examining Part I Expenditures, a comparison can be made between money spent on traditionally male programs/vs. female programs (Equity in spending). Part II - Instructional and Administrative Staff provides the number of male/female teachers in non-traditional programs.

REVIEW OF DAVTE MATERIALS ON SEX EQUITY (cont'd)

Material, Title	Summary	Progress Beyond Access Categories	Potential Application for Sex Equity Assessment Plan
16. cont'd	4. New/Discontinued Programs		Part III - Other Occupational Preparation Enrollments.
	5. Certification		Part IV - Occupational Preparation (11th and 12th grades only) provides information about the number of male and female students in non-traditional programs as well as the number who complete the program.
17. Journal	A publication by ISBE that deals with pertinent issues and innovations in vocational education.	Policy Changes Staff Development Curriculum Development Special Programs	The value of this publication or any other publication in the formulation of a plan to evaluate sex equity is problematic. Whereas the information contained is interesting and often compelling, the data sources that form the foundation of the articles often don't lend themselves to quantification.
18. Sex Equity in Illinois Schools: Problems, Research and Remedies	A resource text that examines the issue of sex equity by looking at: 1. Damage done by sex-role stereotyping. 2. The differences between males and females in reading, math, English, and sports. 3. Leader opportunities in Illinois schools.	Staff Development	Potential Survey item.

REVIEW OF DAVTE MATERIALS ON SEX EQUITY (cont'd)

Material, Title	Summary	Progress Beyond Access Categories	Potential Application for Sex Equity Assessment Plan
19. Equitunity in Vocational Education Administration Handbook for Women	This publication is a comprehensive guide to assist women who aspire to vocational education administration in planning for entry into and success in vocational education administration.	Staff Development	Advocacy Stance
20. A Project to Increase Awareness and Develop Skills for Eliminating Sex Bias in Vocational Education Final Report July, 1978	This project's main thrust was to provide staff members with the procedures and methodology for overcoming sex bias in vocational education. Of primary interest to DAVTE was the development of a program that would provide DAVTE state staff with the ability to work with LEA's in eliminating sex bias and stereotyping in vocational education. Objectives were defined as: -State staff will examine their beliefs, attitudes and biases regarding sex roles using both an attitude survey and workshop materials. -State staff will be able to recognize, list, and describe the effects of sex-role stereotyping and sex discrimination on education and society. -State staff will exhibit those behaviors and skills identified as necessary for the elimination of sex bias and stereotyping in vocational education.	Staff Development	This comprehensive report provided an overview of staff attitudes. These attitudes should probably be re-assessed periodically to determine changes in staff attitude.

REVIEW OF DAVTE MATERIALS ON SEX EQUITY (cont'd)

Material, Title	Summary	Progress Beyond Access Categories	Potential Application for Sex Equity Assessment Plan
21. Evaluation Report of Sex Equity Training Provided For IOE/DAVTE Staff August 20-21, 1977.	The Report from ISBE summarizes the evaluations provided by 25 IOE/DAVTE staff who attended a two-day sex equity conference.	Staff Development	The stated purpose of the training program was to "introduce IOE/DAVTE staff to the contents of the Resource Package and to strengthen their understanding of achieving sex equity in vocational education. The continuation of these inservice activities is an essential assessment component in any plan.
22. A Guide to Educational Equity in Vocational Programs Summer, 1979	This handbook contains resource materials intended to eliminate sex bias in instructional materials, suggestions for using biased materials in a non-biased way and guidelines for developing sex equity in the classroom.	Staff Development Curriculum Development	Subject matter contains potential survey items.
23. ECCMC Special Bibliography in Vocational and Career Education: Sex Equity	This annotated special bibliography lists materials for use by teachers, counselors, administrators and students in the area of sex equity and Title IX.	Staff Development Curriculum	The potential use of the materials published by the ECCMC is obvious. The problem arises in the frequency of use and the way in which the frequency is determined.

THE ANALYSIS OF DAVTE MATERIALS (AND RELATED ISBE MATERIALS) REGARDING THE ASSESSMENT OF SEX EQUITY

November, 1980 - June, 1981

Material	Data Yielded	Recommendation	Result
POLICY (Compliance and Related Trends)			
1. Vocational Civil Rights Checklist for Local Educational Agencies	Compliance with Illinois law and policy	Splitting questions, according to race, handicap, sex, age, language proficiency to yield readily available status of each special group.[1]	Increased length of quesionnaire.
2. Teacher Service Record	Sex by occupation Sex by salary		Impact of non-traditional teaching and any salary differentials.
3. School Calendar, Fall Enrollment and Housing Report	none, as it stands	Add generic compliance question--The School District does not discriminate on the basis of race, color, national origin, sex, age, or English language proficiency.	Documentation of non-discriminatory practices.
		Aggregate statistics by area of vocational education.	Compliance trends by vocational education area.
4. Vocational Education Data System	program expenditures number of teachers in non-traditional fields		Equities according to monies allocated. Impact of non-traditional teaching.
	new and discontinued programs	Add column to record enrollment by sex, to Part VI.(Or consult series of yearly report, which may be slightly more cumbersome.)	Career pattern change documentation.
5. Evaluation Handbook, 1981	Access and Equity statistics		Head count statistics for trend analysis.

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[1] This document has been modified, July 1981.

Material	Data Yielded	Recommendation	Result
6. Professional Staff Form		#24. To what extent do you encourage students of either sex to enroll in your vocational education courses? #14. add sex #15. add non-traditional sex #26. in-service patterns	Beyond compliance trends.
7. Illinois Career Education Journal		Regular feature on Equity--model programs, strategies, innovative teaching, parent involvement, business involvement.	Innovative models and practices are disseminated regularly.
CURRICULUM (Student Data)			
1. Status report on Male and Female students and employers in vocational education.	Current status of non-traditional enrollment	Publish periodically and circulate broadly.	Increases awareness of non-traditional options.
2. Expanding Career Horizons	Potential survey item, i.e. number and extent of usage.	Expansion of content, with periodic revisions that reflect changing employment trends.	Links education to employment practices.
3. ECCMC Special Bibliography in Vocational and Career Education Sex Equity	Potential source of information about usage pattern of materials loaned by the Center.	Hand search and calculation of usage pattern of selected documents until computerization of Center occurs.	Prepared Curricular usage information.
STAFF DEVELOPMENT			
1. Sex Equity in Illinois Schools		Suggest wide distribution; consider split of articles into pamphlets and distribute periodically; add specific section on vocational education problems and practices.	Innovative practices are given recognition.
2. Illinois Career Education Journal		Continue regular feature on equity issues--"Sex Equity in Illinois - State News Section"; consider expansion of.	

Material	Data Yielded	Recommendation	Result
3. Ideas for Achieving Sex Equity.		In elaborated form could be an ongoing publication with highlight of model programs.	
4. A Project to Increase Awareness and Develop Skills for Eliminating Sex Bias in Vocational Education Final Report July, 1978	This comprehensive report provided an overview of staff attitudes.	These attitudes should probably be re-assessed periodically to determine changes in staff attitude.	Documentation of attitude change.

Introduction to Assessment/Action Procedure

The Plan to Assess State and Local Practices in Elimination of Sex Bias is presented in the following section of this report. In this section, a year long assessment action procedure is suggested. The assessment plan is divided according to the categories: Policy and Staff Development/Curriculum, which have formed the operating theoretical overview for the development of this plan.

Underlying assumptions: This plan was developed in response to the following principles which were perceived by the advisory committee as over-riding concerns. 1) Procedures for documenting compliance in sex equity were well in place and efforts to add further assessment practices within the formal evaluation or other required reporting systems would be met with potential resistance by state and local staff. Past efforts in this regard had been tried and found unsuccessful. 2) Categories most in need of assessment were Curricular and Staff Development activities. Progress toward access beyond equity in these areas where there is a potential need for the provision of follow-up technical assistance and formulation of statewide priorities and new policies can be best assessed by the Sex Equity Supervisor or others within DAVTE, given the nature of the overriding concerns, through a multiple use instrument. Moreover, the instrument should be readily quantified, yielding important trend information and offering the potential for stimulating thought and action in sex equity practices and procedures. A fixed-alternative interview with a series of probes to be used by the Sex Equity Supervisor met these criteria. The interview and survey form modified from it, form the central portion of this plan.

Assessment Sources for the Plan

There are three categories of assessment sources in the Plan. First, are those units which exist within the DAVTE or ISBE system that can be readily utilized for reporting statistics, trends and program innovations. The analysis of these assessment sources is found in the preceding section of this report. Included in the analysis are recommended modifications of the existing systems. In the projected data gathering time line described later in this report suggested collection dates are given.

The second category of assessment sources is the formal evaluation system in place throughout the state: The Three Phase Evaluation and the Locally Directed Evaluation. Although these systems are reviewed in category one above, they are highlighted in a separate category because they are evaluation systems with the broadest potential impact for systematic data collection. Although the LDE is optional for school districts, we recommend the use of this system as an important opportunity for self-study which highlights progress and documents unmet needs.

The last category of assessment sources is the separate sex equity assessment system (interview schedule and questionnaire) focused on curriculum and staff development, for use by the Sex Equity Supervisor and others designated by DAVTE. This system is first a fixed-alternative interview broad in scope to be suitable for multi-purpose use--to assess state agency practices, as well as local school/agency practices. The interview can be utilized as a survey form. Sampling procedures are included with this system.

In the following pages of this report The Plan to Assess State and Local Practices in the Elimination of Sex Bias and Discrimination is presented in chart form. First is a description of the utilization of in-place systems. Next is a presentation of the Assessment Methodology for the use of the fixed-alternative interview schedule and questionnaire. Following the methodology section is a chart (Time Line for Assessment of State and Local Practices in the Elimination of Sex Bias) representing the summary of processes and products to be assessed on an annual basis. The Time Line summarizes recommendations made. In addition, the Time Line places activities in the chronological order consistent with existing DAVTE practices. Action/Activity number ten, the assessment procedure to be added to in-place systems, is described completely in the Assessment Methodology section of this report. The last portion of this section is the Report Procedures Suggested for Summarization and Interpretation of Assessment Information collected.

The Plan to Assess State and Local Practices in the Elimination of Sex Bias

Assessment Action Procedures

Policy

Major sources of documentation: The Three Phase Evaluation System
Locally Directed Evaluation

Material, Title	Summary	Current Status	Recommended Action
1. Three Phase System For Statewide Evaluation of Vocational Education Programs Composite Evaluation Report/Vocational Education in the State of Illinois Fiscal Year 1980	This report is an in-depth analysis of the total vocational education programs being offered by local/state agencies. It is a cooperative effort of state and local vocational educators and has been organized as the Three Phase System for State-wide Evaluation of Vocational Programs. The current report represents the culmination of the 1979-80 analysis of vocational education in the State of Illinois. The results of the 1979-80 analysis become a blueprint for program improvement activities in vocational education in the State of Illinois. In the evaluation report, Section G addresses the issue of Sex Equity.	20% of School Districts are evaluated each year.	Continue to review these analyses for trends in sex equity.
2. Vocational Civil Rights Checklist for LEA's & Answer Key	The vocational checklist is a questionnaire developed by the state to allow school districts to determine their compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1973 and Section 504 of the Rehabilitation Act.	Optional for LEA's	Routine use by all LEA's.

Material, Title	Summary	Current Status	Recommended Action
3. Locally Directed Evaluation (LDE)[1]		Optional for LEA's	Routine use by all LEA's.
4. Teacher Service Record (TSR)	The TSR requests information from all teachers in each school district in the state of Illinois. The TSR can be used to gain information about sex equity through the analysis of salary; teaching assignment; length of service; teacher qualifications for positions (i.e. administration)	Annual date due, October 10; available for use, February.	Review for impact of non-traditional teaching and any salary differentials.
5. School Calendar & Fall Enrollment/Housing Report	Information that concerns auxiliary personnel as well as new hirees, non certified staff and the number of students being taught by grade level.	There are no questions that deal specifically with sex equity, The primary thrust behind the questions deals with compliance and elimination and prevention of racial segregation in schools. Due annually, October 10.	Add generic compliance question--The School District does not discriminate on the basis of race, color, national origin, sex, age, handicap, or English language proficiency. Available for review March 1.
6. Vocational Education Data System Report (VEDS)	This document contains instructions for completing forms that deal with: 1. Expenditures 2. Staff Enrollment 3. Special Counts 4. New/Discontinued Programs 5. Certification	By examining Part I Expenditures, a comparison can be made between money spent on traditionally male programs/vs. female programs (Equity in spending). Part II - Instructional and Administrative Staff provides the number of male/female teachers in non-traditional programs.	

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[1] Revised, 1981, Draft Version Reviewed June, 1981

Material, Title	Summary	Current Status	Recommended Action
6. (cont'd.)		Part III - Other Occupational Preparation Enrollments.	
		Part IV - Occupational Preparation (11th and 12th grades only) provides information about the number of male and female students in non-traditional programs as well as the number who complete the program.	Add column to record enrollment by sex, to Part IV.
		Due annually, July 15.	Review to discover impact of non-traditional teaching, equities according to monies spent and to examine career pattern change. Available for review Dec. 1.
7. Illinois Career Education Journal	A publication by ISBE that deals with pertinent issues and innovations in vocational education.	Regular feature on equity issues--"Sex Equity in Illinois - State News Section";	Continue this regular feature and consider expansion of the feature.
8. Completer/Leaver and Employer Follow-Up: A Cooperative Effort	This ISBE product is used to aid LEAs in implementing a new process for follow-up of vocational education program completer/leaver and their respective employers.	Although no specific questions address sex equity, this product could be used to provide a picture of non-traditional employment.	
9. Approved Vocational Program Listing	This document provides a current coding of funded priority within the vocational education programs.	This listing could be used to determine sex equity in funding by determining the status of traditionally female programs with those of traditionally male programs.	

Curriculum and Staff Development

The major sources of documentation, analysis and interpretation are the Interview Schedule and Survey Adaptation of the Schedule, described in detail in another portion of this report.

Other sources of information to be utilized in the assessment process are described in the following summary.

Material, Title	Summary	Current Status	Recommended Action
1. A Project to Increase Awareness and Develop Skills for Eliminating Sex Bias in Vocational Education Final Report July, 1978	This project's main thrust was to provide staff members with the procedures and methodology for overcoming sex bias in vocational education. Of primary interest to DAVTE was the development of a program that would provide DAVTE state staff with the ability to work with LEA's in eliminating sex bias and stereotyping in vocational education. Objectives were defined as: -State staff will examine their beliefs, attitudes and biases regarding sex roles using both an attitude survey and workshop materials. -State staff will be able to recognize, list, and describe the effects of sex-role stereotyping and sex discrimination on education and society. -State staff will exhibit those behaviors and skills identified as necessary for the elimination of sex bias and stereotyping in vocational education.	None planned at this time.	Staff attitudes should probably be re-assessed periodically to determine changes in staff attitudes.
2. Evaluation Report of Sex Equity Training Provided for IOE/DAVTE Staff August 20-21, 1977.	The Report from ISBE summarizes the evaluations provided by 25 IOE/DAVTE staff who attended a two-day sex equity conference. The stated purpose of the training program was to "introduce IOE/DAVTE staff to the contents of the Resource Package and to strengthen their understanding of achieving sex equity in vocational education."	None planned at this time.	The continuation of these inservice activities is an essential assessment component in any plan.

Material, Title	Summary	Current Status	Recommended Action
3. ECCMC Special Bibliography in Vocational and Career Education: Sex Equity	This annotated special bibliography lists materials for use by teachers, counselors, administrators and students in the area of sex equity and Title IX.	No analyses of usage patterns are collected at this time.	Hand search and calculation of usage pattern of selected documents until computerization of Center occurs.
4. Status report on Male and Female students and employers in vocational education.	Current status of non-traditional enrollment.	None planned at this time.	Publish periodically (1983) and every 3 years and circulate broadly to increase awareness of non-traditional options.
5. Expanding Career Horizons	This curricular kit was designed "to help prepare students realistically for the world of work and open their thinking to consider any occupational field, traditional or non-traditional."	None planned at this time.	Expansion of content, with periodic revisions that reflect changing employment trends.

Assessment Methodology for the Sex Equity Interview and Questionnaire

The interview schedule and the questionnaire instruments were developed to incorporate a four level approach to the collection of data. The four levels in this process are: 1) Exploration, 2) Refinement, 3) Replication and 4) Supplementation, ERRS. The ERRS method of data collection allows for continuous reliability and validity checks throughout the development and use of the instruments. The four components of the ERRS method are explained below.

Exploration. The Exploration phase of the instrument development is used to help identify variables and relations as well as potential areas of investigation that may not have been included in the original instruments. This phase is typically accomplished during a field test of the instrument and the subsequent analysis of the responses generated.

Refinement. The refinement of the instrument occurs after the results from the field-test have been analyzed. It is at this time that decisions must be made about the short-comings of the instruments. Can these short-comings be addressed through a) minor revisions, b) major revisions or c) complete re-development of the instruments. It should be noted that typically, only minor revisions are necessary. After the Refinement process is complete and a revised instrument has been developed, a larger sample of the population should be designated for survey and/or interview purposes. (See Sampling Procedure for the Assessment of Sex Equity)

Replication. Replication or the re-administration of the instruments is essential in determining the accuracy of observed results as well as the accuracy of the predictor variables contained, and maintaining baseline data. For example, after the initial administration of the revised instrument, there could appear to be a strong regional difference regarding responses to sex equity issues. Only through the re-administration of the instrument and a rigorous and continuous analysis of the data can the reliability and validity of those results be determined.

Supplementation. There are (as has been discussed) various procedures already in existence for documenting compliance and related sex equity issues. The data generated from the survey and questionnaire instrument discussed can be used separately, but it was designed for use in conjunction with these other existing data sources as important supplements. These instruments can be used regularly as the primary method of data collection (to provide baseline data), to follow up unexpected results, to validate other methods and to probe the motivations and reasons for persons responding as they do to certain questionnaire items. Supplementation procedures can be modified, as the instruments are refined and replicated.

Information Gained From the Interview Schedule and Questionnaire

There are three kinds of information that are included in the interview schedule and the survey questionnaire: 1) identification information, 2) demographic information and 3) problem information.

The interview schedule is composed of fixed-alternative items, which offer the respondent a choice among five alternatives. In order to get more than a surface-level response, a series of probes has also been included. The combination of fixed-alternative items and probes should produce information that is not only easily coded and systematic, but rich in potentially useful data that can be content analysed to provide additional insights.

Sampling Procedure for the Assessment of Sex Equity Introduction

The purpose of this section is to discuss the nature of sampling procedures. The primary assumption of sampling procedures is that through sampling, we are able to take any portion of a population or universe as representative of that population or universe.*

There are primarily two forms of sampling procedures, probability sampling and nonprobability sampling. Probability samples use some form of random sampling, nonprobability sampling does not. In random sampling every unit in the population has an equal and independent chance of being selected for the sample. Because nonprobability sampling does not incorporate randomness, it lacks the statistical power of probability sampling.

Nonprobability Sampling

There are two basic types of nonprobability samples: quota sampling and purposive sampling. Quota sampling uses knowledge about the population (i.e. sex, race, region, etc.), to select sample members that are representative or suitable for certain research purposes. The name is derived because it utilizes the practice of assigning quotas or certain proportions of kinds of people to interview. Purposive sampling uses judgement and deliberate effort to obtain representative samples by including presumably typical areas or groups in the sample.

The Sex Equity Assessment Interview Schedule was developed to be used with a quota sampling approach. This decision was based on the limited number of Sex Equity Consultant Staff within DAVTE.

There are certain benefits and drawbacks that are present when quota sampling is sued with an interview schedule. The primary drawback is expense of conducting interviews. We have tried to circumvent this expense by tying its administration in to scheduled workshops and in-service meetings conducted by the sex equity consultant. (See ERRS Suggested Time Frame)

There are other drawbacks such as the amount of time it takes to conduct a thorough interview, the time to train competent interviewers, and the possibility of interviewer bias. On the other hand, the interviews conducted by trained interviewers allow for increasing the level of awareness about sex equity issues, verifying the accuracy of perceptions and, with the use of probes providing a wealth of information that can be analyzed for content.

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*For example, during presidential elections, national polls (Gallup, Harris, etc.) are very often able to make quite accurate predictions prior to the election. It would be impossible to question all individuals of voting age, therefore, a sample taken from the total population of voting adults must be used. It is through the use of rigid sampling procedures that this is done.

Probability Sampling

The two basic types of probability sampling are stratified sampling and cluster sampling. Both of these sampling procedures use a form of random sampling in their designation of target samples from the larger population. In stratified sampling, the population is divided into strata, such as democrats and republicans, men and women, and the like from which samples are drawn. Cluster sampling however, is the successive random sampling of units or sets and subsets. For example, school districts of a state or county can be randomly sampled, then schools, then classes. Each time the unit of analysis narrows for examination and analysis.

The survey questionnaire was developed to be used with the cluster sampling procedure. This sampling procedure provides a multi-level dimension for the collection and analysis of the data. Using cluster sampling, very distinct units can be examined and compared. (For a more complete discussion of Survey Research, see Appendix.)

ERRS Suggested Time Frame and Administration Procedure

The two charts that follow suggest procedures and time frame for collecting the data using the Sex Equity Assessment Interview Schedule and the Sex Equity Assessment Questionnaire. In both cases, the first stage is used primarily to field-test the instruments. The second stage is used for instrument revision. The third stage is used to collect baseline data and examines a larger sample of the population. The fourth stage provides data for the examination of trends as well as supplementary information that is not available from other data sources.

It should be noted that the suggested procedure for administering the Sex Equity Assessment Interview Schedule is during the scheduled sex equity workshops and in-service meetings. The administration procedure for the Sex Equity Assessment Questionnaire is through the mail. The appropriateness of these procedures should be determined after a full cycle of administration has been completed--all four steps of ERRS. The charts which follow show a multi-year span which can be collapsed to a single year, should additional agency resources be identified.

We suggest that the complete DAVTE Staff be surveyed to provide baseline data of staff perceptions of sex equity efforts. Steps should be taken that insure the anonymity of the persons surveyed. The other samples and suggested percents of populations are detailed on the charts that follow.

ERRS SUGGESTED TIME FRAME AND ADMINISTRATION PROCEDURE FOR THE SEX EQUITY ASSESSMENT INTERVIEW SCHEDULE

	Time	Sample	No. of Interviews to be Conducted[1]	Results	Sampling/Administration Procedure
EXPLORATION	September, 1981 to January, 1982	DAVTE Staff Teachers Administrators Counselors (DAVTE & TAC[2])	50	Field test data for analysis	Quota/Sex Equity Workshops and Inservice Meetings
REFINEMENT	February, 1982 to May, 1982			Revised Interview Schedule	
REPLICATION	September, 1982 to May, 1983	DAVTE & TAC	To be determined based on refinement recommendations	New Base Data	Quota/Sex Equity Workshops and Inservice Meetings
SUPPLEMENTATION	Annually Fall to Spring	DAVTE & TAC	To be determined according to staff limitations	Documentation of Trends	Quota/To Be Determined

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[1] Based on two interviewers who conduct 5 interviews per month

[2] TAC: Teachers, Administrators, Counselors

ERRS SUGGESTED TIME FRAME AND ADMINISTRATION PROCEDURE FOR THE SEX EQUITY ASSESSMENT QUESTIONNAIRE

	Time	Sample	% To Be Surveyed	Results	Sampling/Administration Procedure
EXPLORATION	September, 1981 to January, 1982	Regions Schools Teachers Administrators Counselors DAVTE Staff	5% for all sample groups except DAVTE Staff 100%	Field test data for TAC Baseline data for DAVTE	Cluster/Mail
REFINEMENT	February, 1982 to May, 1982			Revised Survey Questionnaire	
REPLICATION	September, 1982 to May, 1983	Regions Schools Teachers Administrators Counselors DAVTE Staff	20% from each sample group	Baseline data for TAC Replication for DAVTE Staff	Cluster/Mail
SUPPLEMENTATION	Annually Fall to Spring	To be determined according to state needs	To be determined according to state needs	Documentation of Trends	Cluster/To Be Determined

Data Analysis and Instruments

The collection of data without a thorough analysis is both a needless expense and a waste of valuable time. The data that will be generated from the following instruments are rich in potentially useful information. This is true whether one uses the interview schedule or the survey questionnaire. There are two kinds of statistical information that can be produced from this or any other instrument, descriptive and inferential. This discussion will be limited to the use of descriptive statistics.

Descriptive statistics (e.g., variance, standard deviation, frequencies, etc.) do just what the name suggests, describe the data that has been collected. For a complete picture of what the data say, an examination of the frequency distributions and a graph of relevant data can provide a most powerful summary of baseline data and a continuing picture of observable trends. A graph provides a two-dimensional representation of a relation or relations while frequencies display the number of objects in sets and subsets. This analysis of the data is appropriate no matter what level of analysis (state, region, school, etc.) is being examined.

From this simplest level of analysis, measures of central tendency and variability can be undertaken. The three main measures of central tendency are the mean, the median, and the mode. The mean will be used to compare different sub-populations in the sample. For example, in the questionnaire, respondents are requested to rate a series of questions by using a five point scale. (1= poor, 5= above average). The results of the questionnaire could show that the mean or average equals 3.0. We could then conclude that on this particular item the general response to the question regarding local and state efforts of assessing sex equity issues is average (3= average). However, on closer scrutiny, we might see that whereas the overall mean is 3.0, the mean for men is 4.0 and the mean for women is 2.0. This not only presents a very different picture, but also raises the issue of why this is the case.

It is here that the value of the ERRS Method can be seen again. Through re-administration of the instrument, we are able to determine whether or not the results are consistent with previous administrations of the instrument. However, we are also able to build in a component in the questionnaire or interview, that addresses the "why" question asked previously. The ERRS Method is a continuous process of data collection and data refinement. It is a transactional evaluation model in nature. Procedures and processes are designed to fit within the DAVTE system, accompanied by adequate and rigorous sampling procedures; both products and processes are examined utilizing the ERRS method.

The statistical analysis discussed above is not intended to be exhausive or complete, but simply suggestive of the ways that data can be viewed and analyzed.

Time Line for A Plan to Assess State and Local Efforts in the Elimination of Sex Bias and Discrimination in Vocational Education in Illinois

Action, Activity	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	Apr.	May	June	July	Aug.
1. Review section G of the Composite Evaluation Report/Vocational Education in the State of Illinois Fiscal Year, 1981. Note trends in Sex Equity.[1]					X							
2. Review Teacher Service Record for impact of non-traditional teaching and any salary differentials.						X						
3. Review School Calendar and Fall Enrollment/Housing Report.							X					
4. Review Vocational Education Data System Report.				X								
5. Review Completer/Leaver and Employer Follow-up: A Cooperative Effort.							X					
6. Review Approved Vocational Program Listing.							X					
7. Survey DAVTE staff utilizing the instrument found in 1978 Project Report: ...to Increase Awareness and Develop Skills for Eliminating Sex Bias in Vocational Education.			X									
8. Review Post Meeting Reaction forms collected at state staff and local school/agency workshops.						X						X
9. Select new or significant documents available for loan at ECCMC and obtain usage information.					X						X	
10. Survey and interview state and local representatives utilizing the instrument and ERRS Method accompanying this plan.	X	X	X	X	X	X	X	X	X	X	X	X
				continues 1982-83 and annually								

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[1] Activities are listed in the same order as described in the Assessment Action Chart.

The Practical Use of the Interview Schedule and Questionnaire

These instruments are designed to meet the needs identified collaboratively by DAVTE Advisory Committee and the Roosevelt University Project Staff. That is, they are designed to fit within the existing evaluation system, be broad in scope and to be easily administered within the context of the routine work of DAVTE. In addition, the instruments are meant to serve the important function of prompting thought about sex equity in curricular and staff development activities, i.e. the questions serve advocacy functions.

Due to the multi-purpose nature of the instruments they are designed to be broad in scope, meet the needs of a diverse audience of respondents--local and state staff; teachers, counselors and administrators. While any one person surveyed or interviewed may be unable to answer in detail all questions, the use of all questions serves the purposes of stimulating thought, identifying commonalities among the diverse populations, highlighting needs and building a rationale to be used for future solutions identified through the systematic use of the instrument. Additionally, the use of all questions with all audiences serves to increase the reliability and validity of the instruments themselves.

The Sex Equity Assessment Interview

To the Interviewer

The Interview Schedule that follows comes in two parts. Estimated time for each interview - 30 minutes to 1 hour.

Part I is designed to provide identification and demographic information.

Part II is composed of two sections that are designed to assist in the assessment of state and local efforts in the elimination of sex bias and discrimination in vocational education in Illinois. Section A addresses curriculum issues and Section B addresses staff development issues. There are fifteen (15) questions in each section that request the person being interviewed to respond to a series of questions by rating his/her responses on a scale that ranges from excellent to poor.

In order to increase the depth of the data collected, a series of probes are included after each question. These probes must be asked (unless the respondent answers voluntarily). However, additional probes and responses that the interviewer feels are valuable should be recorded on the questionnaire in order to provide a written record for possible content analysis. Content analysis should be a basic part of instrument refinement so recording of probe answers is especially important. Ultimately of course, content analysis identifies key issues on an annual basis.

Special issues related to probes: Sometimes respondents will volunteer information that eliminates the necessity of asking the probe, as stated. Sometimes another probe will occur to the interviewer either in an individual interview situation or after repeated use of the instrument, in the Refinement phase. If these additional probes are used, the additional probes should be recorded, as well as the responses. Sometimes respondents may indicate that they have little or no information about a question. Assess the best estimate of the respondent's perception even though information asked for may be beyond the direct role responsibilities for the interviewee. It is in this way that trends can emerge of converging perceptions. When the interview is conducted with state staff, the questions can be answered in terms of perceptions of state staff of local practices in the context of identified state procedures, practices, policies and law.

The use of the probes is a very important aspect of the interview schedule, calling for sensitive and discretionary action on the part of the interviewer. Basic rapport with the respondent can often be enhanced through judicious use of the probes and response validity enhanced. Additionally, probes promote thought; verify information gathered from single respondents; minimize global, unfounded answers; identify specifics, e.g. model programs; and reduce the tendency toward halo effect, i.e. perception of excellence or mediocrity generalized to all responses.

Sex Equity Assessment Interview Schedule

Introduction: The success Illinois has had toward improving sex equity in vocational education is recognized throughout the country. This interview schedule is designed to assess state and local efforts in the elimination of sex bias and discrimination in vocational education in Illinois.

Directions: Complete this section of the interview schedule by a) placing an "X" in the appropriate space or b) writing in the space provided.

Part I. Background Information

Directions: Complete this section of the questionnaire by a) placing an "X" in the appropriate space or b) writing in the space provided.

1. (10) Male (1) ☐ Female (2) ☐

2. (11) Single (1) ☐ Married (2) ☐ Divorced (3) ☐ Widowed (4) ☐

3. (12) Age:
   - (1) ☐ 30 or less
   - (2) ☐ 31-40
   - (3) ☐ 41-50
   - (4) ☐ 51-65

4. (13) Race/ Ethnic Origin
   - (1) ☐ Asian
   - (2) ☐ Black
   - (3) ☐ Caucasian
   - (4) ☐ Native American/ American Indian
   - (5) ☐ Hispanic
   - (6) ☐ Other _______________

5. (14) Type of school/agency you currently work in:

   Comprehensive High School (1) ☐ Vocational (2) ☐

   Area Vocational Center (3) ☐ Community College (4) ☐

   Technical (5) ☐ DAVTE (6) ☐ Other (7) ☐

6. (15) Vocational Area you currently work in:
   - Health Occupation (1) ☐
   - Agriculture (2) ☐
   - Home Economics (3) ☐
   - Business, Marketing, Management (4) ☐
   - Industrial Occupation (5) ☐
   - Other (6) ☐ ____________

7. (16) Please indicate the title that is appropriate:

(1) ☐ Teacher
(2) ☐ Administrator
(3) ☐ Counselor
(4) ☐ DAVTE Staff
(5) ☐ Other ____________________

8. (17) Size of school:

Less than 600 (1) ☐ 600-100 (2) ☐ 1000+ (3) ☐ Other (4) ☐__________

9. (18) Location of school ____________________

Region 1 (1) ☐
Region 2 (2) ☐
Region 3 (3) ☐
Region 4 (4) ☐
Region 5 (5) ☐
Region 6 (6) ☐
Chicago (7) ☐
Suburban Cook and Lake County (8) ☐

10. (19) What is the approximate size of your city, town or rural community:

(1) ☐ City of 500,000 or more
(2) ☐ Suburb adjacent to city
(3) ☐ City of 100,000-499,999
(4) ☐ City of 10,000-99,999
(5) ☐ Town or rural area

11. (20) Years of experience in vocational education programs in Illinois schools:

(1) ☐ 1-3
(2) ☐ 4-10
(3) ☐ 11-20
(4) ☐ 21-over

12. (21) Years of experience outside of Illinois schools in vocational education programs:

(1) ☐ 1-3
(2) ☐ 4-10
(3) ☐ 11-20
(4) ☐ 21-over

Interview Schedule Part 2

Section A: Curriculum

	Excellent	Above Average	Average	Below Average	Poor
1. How would you rate the local district assessment process of curriculum content for evidence of sex bias?					
Probe: Please identify some specific examples.					
2. How would you rate local district/agency procedures for developing new teaching and/or learning materials to facilitate change in the curriculum?					
Probe: Please identify one or two of these procedures with which you are familiar.					
3. How would you rate strategies used to increase non-traditional vocational enrollment?					
Probe: Please identify some of the strategies used to increase non-traditional vocational enrollment. What criteria did you use to determine how they worked?					

	Excellent	Above Average	Average	Below Average	Poor
4. How would you rate changes made since the last Locally Directed Evaluation?					
Probe: What plans/procedures have been used to raise levels of awareness or remediate biases?					
5. How would you rate the awareness at the local level of sex equity issues?					
Probe: How is this information gathered?					
6. How would you rate the awareness at the state level of sex equity issues?					
Probe: How is this awareness demonstrated?					
7. How would you rate the advocacy stance (beyond compliance) of the local level toward sex equity issues?					
Probe: How is the advocacy stance demonstrated.					

	Excellent	Above Average	Average	Below Average	Poor
8. How would you rate the advocacy stance (beyond compliance) of the state level toward sex equity issues?					
Probe: How is this advocacy stance demonstrated?					
9. How would you rate the counseling in your agency that has been provided to facilitate nontraditional enrollment?					
Probe: How do these counseling procedures differ from previous counseling procedures?					
10. How would you rate the extent to which nontraditional vocational opportunities are available, locally?					
Probe: Can you give some examples of graduates in your school/district that are employed in non-traditional occupations?					

	Excellent	Above Average	Average	Below Average	Poor
11. How would you rate the extent to which non-traditional vocational opportunities are available, statewide?					
Probe: Can you give some examples of graduates in your school/district that are employed in non-traditional occupations?					
12. How would you rate the equitable treatment of male and female students in the following: a. class activities b. student-teacher relationships (same sex, opposite sex) c. co-educational programming d. counseling and guidance services e. curriculum guides f. role models g. non-sexist language					
Probe: Request example(s) in each sub-category. If some are difficult to provide it might be helpful to draw comparisons between the way things "used to be" and the way things are now.					
13. How would you rate the extent/quality of articulation among the model equity programs in the various departments of your school system?					
Probe: How is this articulation of equitable programs demonstrated? a. recruitment b. enrollment c. retention d. faculty e. funding					

	Excellent	Above Average	Average	Below Average	Poor
14. How would you rate the student use of employment data relating to trends and forecasts?					
Probe: Could you give examples of how students use employment data?					
How would you rate the parent use of employment data relating to trends and forecasts?					
Probe: Could you give examples of how parents use employment data?					
15. National information indicates that a significant number of people do not utilize vocational educational opportunities available to them even though the educational opportunities are compatible with their needs, interests, and abilities. How would you rate the effectiveness of Illinois in combating this problem?					
Probe: How has the state tried to combat this problem? How has the local district/agency tried to combat this problem?					

Section B: Staff Development

	Excellent	Above Average	Average	Below Average	Poor
1. How would you rate local in-service workshops for faculty in regard to sex equity?					
Probe: Why did you rate the local in-service workshops so high/low?					
How would you rate state in-service workshops for faculty in regard to sex equity?					
Probe: Why did you rate the state in-service workshops so high/low?					
2. How would you rate faculty skill at evaluation of curricular material for sex bias?					
Probe: How is this skill demonstrated?					
3. How would you rate faculty skill in developing bias free materials?					
Probe: Do you have or can you provide me with examples of materials developed by the faculty?					

	Excellent	Above Average	Average	Below Average	Poor
4. How would you rate faculty ability to utilize biased material in a non-biased manner?					
Probe: Could you give examples of how teachers do this?					
5. How would you rate strategies used to increase non-traditional vocational teaching?					
Probe: What are some of the strategies that are used?					
6. How would you rate your school's use of non-traditional materials available on loan from state and regional libraries?					
Probe: What materials have you used from state and regional libraries?					
7. How would you rate teacher knowledge within your school/agency of sex equity issues?					
Probe: How is this knowledge demonstrated and/or measured?					

	Excellent	Above Average	Average	Below Average	Poor
8. How would you rate the support of sex equity by local school administrators?					
Probe: How is this support demonstrated or not demonstrated?					
9. How would you rate counseling services provided to increase non-traditional enrollment?					
Probe: How are these counseling services different from the previous counseling services?					
10. How would you rate your local school/agency in the use of up-to-date information about non-sexist careers, choices/opportunities and job projections?					
Probe: Where do you get this information? Please give examples of how this information is used.					
11. How would you rate your school's use of sex fair materials					
Probe: What are the tests that are used (examples)? Name some of the tests that are used. a. achievement b. ability c. vocational d. interest inventories					

	Excellent	Above Average	Average	Below Average	Poor
12. How would you rate teacher attitudes toward sex equity?					
Probe: Ask for a verbal comparison between the "old days" and now.					
13. How would you rate equitable treatment of faculty in the following: a. class activities b. student-teacher relationships c. co-educational programming d. counseling and guidance services e. curriculum guides f. role models g. non-sexist language					
Probe: Request example(s) in each sub-category. If some are difficult to provide it might be helpful to draw comparisons between the way things "used to be" and the way things are now.					
14. How would you rate the use of employment data in terms of trends, forecasts and projects by teachers?					
Probe: Could you give examples of how teachers use employment data?					
15. How would you rate the state's response toward local school districts that request funds for research in sex bias and sex role stereotypes and the development of innovative programs to eliminate problems of inequity and/or stereotypes. Probe: What funds have you received?					

Sex Equity Assessment Questionnaire

When the questionnaire is distributed it is suggested that a cover letter signed by appropriate DAVTE officials be sent which contains excerpts from the Underlying Assumptions section of this report and from the paragraph describing Supplementation. Additionally, respondents should be assured that their perspectives are valued whether or not Sex Equity, Curriculum, or Staff Development activities are in the direct role responsibilities for them.

The Survey seeks to identify converging trends from respondents representing a variety of perspectives, form baseline data of a descriptive nature and to validate information collected through other means described in earlier sections of this report.

____ ____ ____ ____ ____(1-5)

SEX EQUITY ASSESSMENT QUESTIONNAIRE

Introduction: The success Illinois has had toward improving sex equity in vocational education is recognized throughout the country. This questionnaire is designed to assess state and local efforts in the elimination of sex bias and discrimination in vocational education in Illinois.

Part I. Background Information

Directions: Complete this section of the questionnaire by a) placing an "X" in the appropriate space or b) writing in the space provided.

1. (10) Male (1) ☐ Female (2) ☐

2. (11) Single (1) ☐ Married (2) ☐ Divorced (3) ☐ Widowed (4) ☐

3. (12) Age:
   - (1) ☐ 30 or less
   - (2) ☐ 31-40
   - (3) ☐ 41-50
   - (4) ☐ 51-65

4. (13) Race/ Ethnic Origin
   - (1) ☐ Asian
   - (2) ☐ Black
   - (3) ☐ Caucasian
   - (4) ☐ Native American/ American Indian
   - (5) ☐ Hispanic
   - (6) ☐ Other_______________

5. (14) Type of school/agency you currently work in:

   Comprehensive High School (1) ☐ Vocational (2) ☐

   Area Vocational Center (3) ☐ Community College (4) ☐

   Technical (5) ☐ DAVTE (6) ☐ Other (7) ☐

6. (15) Vocational Area you currently work in:
   - Health Occupation (1) ☐
   - Agriculture (2) ☐
   - Home Economics (3) ☐
   - Business, Marketing, Management (4) ☐
   - Industrial Occupation (5) ☐
   - Other (6) ☐

7. (16) Please indicate the title that is appropriate:

(1) ☐ Teacher

(2) ☐ Administrator

(3) ☐ Counselor

(4) ☐ DAVTE Staff

(5) ☐ Other ____________________________

8. (17) Size of school:

Less than 600 (1) ☐ 600-100 (2) ☐ 1000+ (3) ☐ Other (4) ☐ __________

9. (18) Location of school __________________________

Region 1 (1) ☐ Region 4 (4) ☐ Chicago (7) ☐

Region 2 (2) ☐ Region 5 (5) ☐ Suburban Cook and Lake County (8) ☐

Region 3 (3) ☐ Region 6 (6) ☐

10. (19) What is the approximate size of your city, town or rural community:

(1) ☐ City of 500,000 or more

(2) ☐ Suburb adjacent to city

(3) ☐ City of 100,000-499,999

(4) ☐ City of 10,000-99,999

(5) ☐ Town or rural area

11. (20) Years of experience in vocational education programs in Illinois schools:

(1) ☐ 1-3

(2) ☐ 4-10

(3) ☐ 11-20

(4) ☐ 21-over

12. (21) Years of experience outside of Illinois schools in vocational education programs:

(1) ☐ 1-3

(2) ☐ 4-10

(3) ☐ 11-20

(4) ☐ 21-over

Part II. Questionnaire

Directions: Using the scale below, please rate each of the following issues that address state and local efforts toward sex equity in Illinois.

5 = Excellent

4 = Above Average

3 = Average

2 = Below Average

1 = Poor

Section A: Curriculum

1. How would you rate the local district assessment process of curriculum content for evidence of sex bias?

5 Excellent	4	3	2	1 Poor

2. How would you rate local district/agency procedures for developing new teaching and/or learning materials to facilitate change in the curriculum?

5 Excellent	4	3	2	1 Poor

3. How would you rate strategies used to increase non-traditional vocational enrollment?

5	4	3	2	1

4. How would you rate changes made since the last on-site visitation?

5 Excellent	4	3	2	1 Poor

5. How would you rate the awareness at the local level of sex equity issues?

5 Excellent	4	3	2	1 Poor

6. How would you rate the awareness at the state level of sex equity issues?

5 4 3 2 1
Excellent Poor

7. How would you rate the advocacy stance (beyond compliance) of the local level toward sex equity issues?

5 4 3 2 1
Excellent Poor

8. How would you rate the advocacy stance (beyond compliance) of the state level toward sex equity issues?

5 4 3 2 1
Excellent Poor

9. How would you rate the counseling in your agency that has been provided to facilitate non-traditional enrollment?

5 4 3 2 1
Excellent Poor

10. How would you rate the extent to which non-traditional vocational opportunities are available, locally?

5 4 3 2 1
Excellent Poor

11. How would you rate the extent to which non-traditional vocational opportunities are available, statewide?

5 4 3 2 1
Excellent Poor

12. How would you rate the equitable treatment of male and female students in the following:

a. class activities

5	4	3	2	1
Excellent				Poor

b. cooperative vocational education placement

5	4	3	2	1
Excellent				Poor

c. student-teacher relationships (same sex, opposite sex)

5	4	3	2	1
Excellent				Poor

d. co-educational programming

5	4	3	2	1
Excellent				Poor

e. counseling and guidance services

5	4	3	2	1
Excellent				Poor

f. curriculum guides

5	4	3	2	1
Excellent				Poor

g. role models

5	4	3	2	1
Excellent				Poor

h. non-sexist language

5	4	3	2	1
Excellent				Poor

13. How would you rate the extent/quality of articulation among the model equity programs in the various departments of your school system?

5	4	3	2	1
Excellent				Poor

14. How would you rate the student use of employment data relating to trends and forecasts?

5	4	3	2	1
Excellent				Poor

15. National information indicates that a significant number of people do not utilize vocational educational opportunities available to them even though the educational opportunities are compatible with their needs, interests, and abilities. How would you rate the effectiveness of Illinois in combating this problem?

5	4	3	2	1
Excellent				Poor

Section B: Staff Development

16. How would you rate state in-service workshops for faculty in regard to sex equity?

5	4	3	2	1
Excellent				Poor

17. How would you rate faculty skill at evaluation of curricular material for sex bias?

5	4	3	2	1
Excellent				Poor

18. How would you rate faculty skill in developing bias free materials?

5	4	3	2	1
Excellent				Poor

19. How would you rate faculty ability to utilize biased material in a non-biased manner?

5	4	3	2	1
Excellent				Poor

20. How would you rate strategies used to increase non-traditional vocational teaching?

5	4	3	2	1
Excellent				Poor

21. How would you rate your school's use of non-traditional materials available on loan from state and regional libraries?

5	4	3	2	1
Excellent				Poor

22. How would you rate teacher knowledge within your school/agency of sex equity issues?

5	4	3	2	1
Excellent				Poor

23. How would you rate the support of sex equity by local school administrators?

5	4	3	2	1
Excellent				Poor

24. How would you rate counseling services provided to increase non-traditional enrollment?

5	4	3	2	1
Excellent				Poor

25. How would you rate your local school/agency in the use of up-to-date information about nonsexist careers, choices/opportunities and job projections?

5 4 3 2 1
Excellent Poor

26. How would you rate your school's use of sex fair testing materials?

5 4 3 2 1
Excellent Poor

27. How would you rate teacher attitudes toward sex equity?

5 4 3 2 1
Excellent Poor

28. How would you rate equitable treatment of faculty in the following:

a. class activities

5 4 3 2 1
Excellent Poor

b. student-teacher relationships

5 4 3 2 1
Excellent Poor

c. co-educational programming

5 4 3 2 1
Excellent Poor

d. counseling and guidance services

5 4 3 2 1
Excellent Poor

e. curriculum guides

5 4 3 2 1
Excellent Poor

f. role models

5 4 3 2 1
Excellent Poor

g. non-sexist language

5 4 3 2 1
Excellent Poor

29. How would you rate the use of employment data in terms of trends, forecasts, and projects by teachers?

5 4 3 2 1
Excellent Poor

30. How would you rate the state's response toward local school districts that request funds for research in sex bias and sex role stereotypes and the development of innovative programs to eliminate problems of inequity and/or stereotypes?

5 4 3 2 1
Excellent Poor

Report Procedures Suggested for Summarization and Interpretation of Assessment Information Collected

Utilize the time line for assessment activity plan to issue an informal quarterly (Nov., Feb., May, Aug.) report summarizing trends and detailing implications and recommendations for the future. The reports based on available statistics and impressions gained could form the basis for Newsletter/Journal articles which would highlight best procedures and practices or identify issues of concern.

Quarterly reports can form the basis for required annual or special document publications. Baseline information collected and reported in this manner can be utilized annually as a comparative point for subsequent year's reports. Long-term trends and actions can be described in this way.

Review of Literature Related To Sex Equity in Vocational Education

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Abstract

This review provides a national perspective on sex equity in secondary vocational education. It was undertaken in order to provide a context for examining sex equity in vocational education in Illinois. In some cases information directly related to Illinois is included. Illinois practices and procedures are reviewed in a separate document, Analysis of Existing Sex Equity Systems.

Four major areas are reviewed: policy, enrollment and employment patterns, strategies for achieving sex equity in vocational education and approaches to evaluation of sex equity in vocational education. Major sources for the review include U.S. Government Documents, ERIC, the National Center for Research in Vocational Education and the N.I.E. Vocational Education Study. While this review is not comprehensive it does identify the main information available and can serve as a resource for further investigation.

Policy In Regard To Sex Equity In Vocational Education

Recent policy recommendations in regard to sex equity vary widely although the general emphasis is on policies which suggest ways in which compliance with Title VII of the Civil Rights Act of 1964, the 1972 amendment of that act, Title IX of the Education Amendments of 1972 and the Vocational Education Amendments of 1976 can be achieved.

Title VII of the Civil Rights Act of 1964 amended by the Equal Employment Opportunity Act of 1972 prohibits discrimination based on sex, as well as race, color, religion and/or national origin, in areas of employment. The law covers hiring, firing, wages, benefits; classifying, referring, assigning or promoting; extending or assigning use of facilities; training, retraining or apprenticeships or any other terms, conditions or priviledges of employment. The Equal Employment Opportunity Commission has issued guidelines which bar hiring based on stereotyped characterizations of the sexes, classification or labeling or "men's jobs" and "women's jobs," unequal benefits, rest or meal periods and physical facilities, and the exclusion of women from employment because of pregnancy. (U.S. Department of Labor, 1977)

Title IX of the Education Amendments of 1972 forbids discrimination on the basis of sex in educational programs or activities which receive Federal aid. Areas covered by the law include recruitment, admission, counseling, financial and employment assistances, access to courses and athletic programs, housing and employment practices. A vocational school may not limit enrollment of one sex in a program because of limited availability of job opportunities for that sex. (Department of Health, Education and Welfare, n.d.)

The Vocational Education Act of 1963 was considerably amended in Title II of the Education Amendments of 1976, (P.L. 94-482) and (P.L. 95-40) 1977. These amendments are the first laws aimed specifically at sex bias, sex discrimination and sex stereotyping in vocational education. They make provisions for overcoming sex inequity and promoting equal vocational education opportunity for both sexes. The Act requires states to spend at least $50,000 per year for full-time personnel to work for the elimination of sex bias in vocational education. Each state must submit a five year plan describing the vocational education programs they will provide and detailing specific steps to be taken to eliminate sex bias, sex discrimination and sex stereotyping. Advisory councils must be established to assist in this planning process. (National Advisory Council on Women's Educational Programs, n.d.) The guidelines for the implementation of these amendments (Federal Register March 21, 1976, Vol. 44, No. 56) cover sex equity in the following areas: all the administrative activities of the state agencies responsible for administering vocational education programs; distribution of federal and state funds; access and admission of students; counseling; recruitment; promotional activities such as career day, parents' night, etc; financial aid; facilities; work-study and job placement programs; and faculty and staff employment and salary.

Other legislation which directly effects sex equity in secondary vocational education include The Women's Educational Equity Act (WEEA) (P.L. 93-380 sec. 408), the Career Education Incentive Act (P.L. 95-270) and Title IV of the Civil Rights Act of 1964 (P.L. 88-352) amended 1972 (P.L. 92-318 sec. 906 (a)) (45 C.F.R. Part 180). Each of these laws provide for the elimination of sex bias and discrimination through the development of training and curriculum projects. WEEA focuses on programs to promote educational equity for girls through projects which have high replicability and/or wide direct impact. The Career Education Act concentrates on career education projects which eliminate bias and stereotyping. Title IV provides technical assistance, expert consultation and employee training to schools with problems or special needs in regard to desegregation on the basis of sex, race, color, religion, national origin or language. This is the only national program which provides funds for this purpose. (Mastalli, 1977)

Policy makers have said both very little and a great deal in regard to sex equity. However, generally speaking, sex equity issues are not addressed by policy makers unless it is their specific mandate to do so.

In a 1980 monograph called Training for Policy Guidance by the U.S. Department of Labor, Employment and Training Administration the sources, content and level of training necessary to achieve desired skill requirements for most occupations is examined. No where in this report is there any mention of issues of race or sex as they effect training.

Using data from the Department of Labor National Longitudinal Surveys (NLS) of Labor Market Experience collected in the late 60's and early 70's, Grasso and Shea (1979) make fairly weak policy recommendations in regard to sex equity. Their research indicates that girls with business and office training receive higher hourly wages and annual earnings than their peers from the general high school track. They recommend that teachers and counselors appraise their female students of this fact and "not expend their energies on merely dissuading young women from entering traditional fields." (p. 160) They acknowledge critics' charge that this counsel may ultimately be detrimental in that it contributes to occupational sex-segregation and results in an earnings disadvantage over the long run. However they make no recommendations about these problems. They mention that "it may be extremely difficult for a young woman...to orient her-self to and actually enter a traditionally male, high school level occupation" and state they "are not against trying." (p. 160) However this is the extent to which limited options for women are addressed. Limited options men in non-traditional fields are not addressed at all.

Stern (1977) in Toward a Federal Policy on Education and Work does review policy options in regard to "restricted occupational socialization." Three main problem areas are noted: 1) girls' perceptions that they have limited career options; 2) sex-stereotyped educational and counseling materials; 3) sex-stereotyped vocational education course enrollments.

The federal government has taken actions to deal with each of these problems in terms of OE sponsored projects on career awareness, sex-fair curriculum materials and sex-fair staff development as well as research and technical assistance projects. However these actions are hampered by an absence of criteria for measuring success in the elimination of occupational stereotyping. This, Stern claims, is the consequence of a lack of consensus on how fast cultural change should occur. He recommends a policy of continued research, development and dissemination of successful practices (however success is defined) and coordination within OE of sex equity agencies and staffs.

NIE is conducting a major, federally mandated study on vocational education. While their report on sex equity will not be available until fall of 1981, McClure (1977) has written the only paper available to date from NIE on the subject. She describes the evidences of sex inequity, outlines compliance issues with Title IX and suggests areas for research and policy.

Major areas in which compliance to Title IX should be carefully examined are 1) school finances in terms of patterns of distribution of federal monies and per-pupil expenditure; 2) school construction, particularly in terms of racial and geographic impact; 3) school governance structure, particularly practices and policies which segregate women and/or limit their access to a diverse curriculum; 4) cooperative education and work study, little is known about women's participation in such programs and this needs to be studied; 5) admission criteria, particularly biased criteria or criteria which limits opportunities for men or women.

In 1978, Reports of the State Advisory Councils on Vocational Education, only 17 of the 57 councils filed reports which contained specific recommendations in regard to sex equity. This could indicate the other 40 are either satisfied with the status of sex equity in their area or are ignoring the issue. Not all policy studies relate to government policy, industry and business have also begun to articulate sex equity policy issues.

Bates (1979) interviewed 13 men and 12 women who are national leaders in business, government, industry and education. They made the following major recommendations concerning actions necessary to overcome sex bias and sex stereotyping in vocational education:

1) equalize the salaries of males and females;

2) actively recruit persons in all course offerings to create equal opportunities for both sexes. Other areas of recommended action included developing awareness of sexism, opportunities for women as vocational educators, biased materials, lack of role models, poor counseling and lack of teacher training in sex bias and stereotyping.

A 1979 study done for Barnhill-Hayes Inc. assessed employer attitudes toward affirmative action. A wide variety of businesses were surveyed including finance, industry, food products, energy, textiles and insurance firms. The study concludes that affirmative action has "become a 'fact' of corporate life...(yet) business still has a long way to go in terms of demonstrating a genuine commitment to affirmative action." (p. 6) Most businesses still claim they cannot find qualified minority and women job candidates, with 46% of the respondants citing this as a major affirmative action problem. Lack of real management commitment is cited as a problem by 20% and unclear government regulations by another 20%. Half of those surveyed felt business had been asked to assume too great a responsibility with regard to eliminating discrimination, half disagreed with this position. Motivation to pursue affirmative action comes predominantly from fear of adverse publicity, legal actions (fines) or loss of government contracts. Lack of commitment to and managerial experience in affirmative actions inhibit successful affirmative action. Only 31% of the companies had a full-time person whose sole responsibility is to handle affirmative action. Thus it can be seen that over the past ten years attention has been given to the articulation of federal, state and business policies in regard to sex equity and vocational training. All the major areas of sex bias and discrimination have been identified and programs proposed and/or developed to overcome these problems. However much remains to be done, particularly in integrating sex equity policies into policy studies which do not specifically address sex equity.

Sex Equity In Enrollment And Employment Patterns

There are many problems in the collection of accurate statistics for vocational education primarily due to difficulties in coordination among local, state and federal levels in reporting data. The difficulties include lack of consistent definitions in who should be labeled a vocational education student and what constitutes a vocational education program (Lee, 1979). NIE is presently developing a more consistent approach to such data collection called The Vocational Education Data System.

Several major sets of data are presently available including enrollment and employment patterns and teacher employment data.

Enrollment

No matter what the data source, the trends are clear. Women and men continue to be segregated in vocational programs. The enrollment in the health, home economics and office programs is more than 70% female. The enrollment in the agriculture, technical and trade and industrial education programs is nearly 80% or more male. Only the distributive education programs have equal enrollment by females and males. This is true whether the data examined is the 1972 data (Office of Education, Division of Vocational and Technical Education, 1972 a, b, c); 1973-74 data (cited in McClure, 1977 p. 27); 1975 data (cited in Stern, 1977 p. 39); 1979 preliminary unedited Office of Civil Rights data (available from N.I.E. 1981; see also Vocational Education Study, Publication No. 3) or the 1980 Illinois State Board of Education data. In 1974, Steiger did a comprehensive study of vocational preparation for women in Illinois. While the 1972 statistics she cites in this report may not be directly compatible to the preliminary 1979 data, they are indicative of how Illinois vocational education enrollments compare to national enrollments. (see Table I)

Illinois enrollments for both 1972 and 1979 generally parallel national statistics. It seems as if some gains have been made for women in Agriculture, technical and trade and industrial programs, although these fields still have about 80% or more male enrollments.

Although comparisons cannot be exact since methods of data collection vary, it appears that between 1972 and 1979 enrollment of Illinois females in non-traditional fields increased. Enrollments in agriculture appear to have grown the most from 5.5% in 1972 to 20.3% in 1979. In the technical and trade and industry programs, growth was only a few percentage points; this may or may not reflect real growth because of the changes in data collection methods.

The case may be the opposite for Illinois male enrollment in non-traditional fields. There have been virtually no changes in the percentage of males in health and office occupations between 1972 and 1979. In fact there may even have been a decrease of a few percent. However, this decrease cannot be accurately determined because of the different data collection methods.

Table 1 indicates that Illinois trends are approximately reflective of national trends. Another way to view this data is to compare the percentage of the total of each sex enrolled in each vocational field of study. (Tables 2 and 3) The distribution of males among the various programs remains about the same from 1972 to 1979.

For each year, both nationally and in Illinois the trade and industrial program enrolled over 44% of all males in vocational education. In 1979, the second choice for males was office programs, both nationally (17%) and in Illinois (17.7%). The third choice at both levels was agriculture; 9.5% at the national level and 8.1% at the state level. This compares to 1972 where the national second choice for males was agriculture (18.8%) and the third office programs (12.3%) while the reverse situation occurred in Illinois where office was second (22.5%) and agriculture third (9.0%). However, sex segregation exists with the office programs for 55.3% of the male enrollment is in the three areas: accounting, computers operations and programming. These three areas account for only 26.8% of the female enrollment in office programs, whereas steno secretary and typing account for 54.3% of the female enrollment. If the traditional male fields of agriculture, technical and trade and industrial are taken together, they account for 72.4% in 1972 and 63.6% in 1979 of the national male enrollments and 69.9% in 1972 and 62.2% in 1979 of Illinois male enrollments. Less than 5% of all boys have chosen home economics or health fields or study either nationally or in Illinois.

In 1972 the traditional female fields of health, home economics and office works accounted for 88.9% of the national female enrollment and 81% of the Illinois enrollment. Nationally 70.2% and in Illinois 74.6% of all females enrolled in these three programs in 1979. These were the female top three choices of programs.

The figures for the two years cannot be strictly compared because of differences in measuring home economics participation. Nevertheless they are indicative of the programs which most girls still choose. Only 13.7% of all females nationally and 11.3% of Illinois' females chose one of the traditionally male programs in 1979.

While definite conclusions about enrollment patterns await finished data it seems clear that enrollment of boys and girls in non-traditional fields is still an exceptional situation.

Employment and Earnings

Women at all educational levels and all occupational categories earn less than their male counterparts. (U.S. Department of Labor, 1979) The statistic has been highly publicized; full-time women workers in 1977 earned only 59 cents for every dollar earned by full-time men workers. (see Table 7)

One of the major factors cited by the Department of Labor as sustaining this gap is the concentration of women in occupations which have been considered traditional for women and which are consistently lower paid. This factor is significantly related to differences in the kinds of education, training and career counseling women receive.

About 70% of all women are employed in one of three occupational groups: clerical (35%), service (18%) or professional and technical (15%). (Reeder n.d.) Women make up 78.2% of the clerical workers, 61.5% of service workers, and about 42% of sales workers and professional and technical workers. Men by contrast, are concentrated as 95.2% of craft and kindred workers, 83.8% of farm workers, 90.7% of non-farm laborers, 79.2% of managers and administrators. (U.S. Department of Labor, 1979)

These percentages reflect the enrollment percentages in vocational education schools where about 70% of all females are enrolled in health, home economics and office fields of study and about 80% of the males are enrolled in agriculture, technical or trade and industrial fields. (see Tables 1-6)

Vocational Teacher Employment

In general, employment patterns in education indicate an unequal distribution of men and women. In 1975, females comprised 95.1% of all teacher aides, 83.3% of all elementary teachers, 45.9% of all secondary teachers, 24.8% of all assistant principals and 12.8% of all principals. (Employment Opportunity in the Schools, 1975) Overall there appears to have been a decrease in the total number of women teaching vocational education. In 1972, 49% of the teachers were women (McClure, 1979) while the 1979 preliminary data indicates only about 40% are women (NIE, 1980)

Vocational education employment in 1979 mirrors patterns of vocational education enrollment. (see Table 8) At both Illinois state and national levels women predominate in health, occupational home economics, office and consumer and homemaking programs as 60% to 96% of the faculty. Over 90% of the men are concentrated in agriculture, technical, trade and industry and industrial arts programs; this is true at national and state levels. The teachers in these fields are clearly segregated along traditional lines. In fact at the national level there may have even been a significant decrease in the number of women distributive education teachers. They now comprise about a quarter of the teachers in this program, a program which is typical about equally enrolled by boys and girls.

Supervisory positions are also male dominated; only 20% of these positions are held by women in the U.S. The figure in Illinois is about double that at 40%. Illinois (Frank, 1977) has instituted at least one program, at Northern Illinois University, to recruit, train and place females and/or members of a minority group into vocational administrative positions. About 30 women were certified through this program.

Kane et al. (1977) have developed a handbook which presents two models for the retraining of women teachers and skilled women as teachers in non-traditional vocational programs. The first model is a general one covering certification requirements, skill needs and time needed for training. The second model presents five designs for specific retraining in such fields as industrial arts and agriculture. In another paper Kane (1978) describes why women need to be trained to teach non-traditional vocational education subjects and the factors which need to be considered in such training.

Strategies For Achieving Sex Equity

Clearly more efforts need to be made to reduce sex segregation of career preparation choices.

Several studies have been made of the factors which influence student enrollment in vocational education programs. Research conducted in Indiana (New Education Directions Inc., 1977; Richards and Brooks, 1979) found that students were aware of sex role stereotyping but generally did not act on that awareness and continued to choose traditional work roles. While the Richards and Brooks study does not look at vocational education students, their results are suggestive of the factors which influence student career choices. Over one hundred Indiana high school juniors and seniors were interviewed about the influences on their occupational decisions. Of the girls interviewed 23% chose non-traditional careers while less than 2% of the boys made such a choice. Major influences cited in non-traditional choices were experiences (59%), role models (24%) and interests (17%). Students cited differing expectations for boys and girls, school experiences that were primarily sex segregated (i.e., home economics was open to boys but few enrolled) and stereotyped role models as factors influencing traditional career choices. Gulledge (1978) found in a Florida study that, in addition to awareness about issues of sex role stereotyping, the influence of women friends or teachers or male counselors figured in female choices of non-traditional programs. Another important factor was the availability of information about job requirements and opportunities. A 1978 Indiana study (Sawyers, 1978) concluded that the numbers and types of vocational education courses offered have little effect on student selection of non-traditional courses. Sex roles self-perception as measured by the BEM sex role inventory seemed to be the crucial factor.

Thus it appears that awareness and opportunity are insufficient conditions for effecting student choice of non-traditional fields. Sex role flexibility, experience and adult direction and support are probable necessary factors for promoting greater student choice.

Various strategies have been devised and tried in attempts to foster sex equity in vocational education programs. At least two reviews of exemplary strategies have been conducted. (Maher, 1976a, 1976b and Parsons n.d. cited in Maher, 1976) These reviews contain good resources for approaches to the problem.

Approaches can be categorized in a number of ways, some of which overlap. There are projects to increase career awareness in students through counseling procedures and programs, projects to recruit students into non-traditional training programs, projects to review, critique and develop curriculum to promote student awareness of sex equity issues and career choices and projects to develop awareness and train teachers, staff and parents in sex equity. There are several programs which combine one or more of these approaches.

Two widely cited model programs are ones developed in North Carolina (Smith, 1976, 1977) and Texas (Lerner et al., 1976). Each focused on changing enrollments in non-traditional courses and included awareness campaigns for teachers, staff, parents and students, active recruitment and counseling and support. The Texas recruitment process doubled the number of females in non-traditional classes and promoted staff acceptance of females in non-traditional work. Enrollment of both males and females in non-traditional courses increased in the North Carolina program.

Counseling

Studies point to counseling as an important factor in student choice of non-traditional programs. (Norfolk study cited in McClure, 1979; Prediger and Noeth, 1979)

Efforts have been made to make guidance and counseling more responsive to issues of sex equity. Three major areas include training programs for counselors in sex fair counseling, development of counseling approaches which encourage students to consider non-traditional programs and fields and the assessment and revision of counseling materials, particularly interest inventories.

Resources for Training

The American Personnel and Guidance Association, the major professional organization for guidance counselors sponsored a project called "Sex Equity in Guidance Opportunities." This project is now defunct but did provide technical assistance to counselors and developed a multi-media kit for state department of education trainers. However APGA no longer has any projects which deal specifically with sex equity.

Mitchell (1978) has developed a training manual for preservice counselors. A book by Astin and Harway (1978) is aimed specifically at counselors and issues of sex discrimination in career education. Colby (1976) has a six hour workshop module for guidance personnel. A monograph by Smith et al. (1977) discusses the situation of women and non-traditional career choices.

Sex Fair Counseling Approaches

Some materials that exist which counselors can use include a study by

Vetter et al. (1974) which analyzes high school guidance materials for sex role stereotyping. It covers more than 9500 pages of materials including 1850 illustrations. Farmer and Bacher (1977) have produced a three part guide on career options for women which includes a counselor's sourcebook, a guide for women and a bibliography. Abt Publishers (1975) have a self administered curriculum in sex fair counseling.

Interest Inventories

Much has been done in regard to occupational interest measurements which are widely used by guidance counselors. Tittle and Zytowski (n.d.) have reviewed the issues related to the measurement of occupational interest and evaluated various interest scale[illegible] heir review is quite comprehensive. Other useful discussions of the issues can be found in Diamond (1975), Prediger and Cole (1975), Birk (1974) and NIE (1974). Harway et al. (1976) have an extensive annotated bibliography covering a wide variety of issues on sex equity and counseling.

Recruitment

Active recruitment of students into non-traditional courses is another major area of vocational education sex equity efforts. Specific procedures for the recruitment of students into non-traditional programs are described by Bergstrom and Champagne (1976), part of the staff of the previously described model program in Texas.

Glover (1977) has develop a handbook for persons who are in the position of placing minority women in professional jobs and Foxly (1976) has developed a guide for employers to help them locate, recruit and employ women.

Curriculum

The Office of Education and various state departments of education have funded Curriculum development projects aimed at developing awareness in students about sex role stereotyping and/or promoting career awareness and student consideration of fields not traditionally pursued by their sex.

Various booklets for use by students and teachers exist which cover issues of sex fair curriculum and materials, the law and/or sex-fair career guidance (Schonborn and O'Neil n.d.; Abt, 1975; U.S. Department of Education, 1976; Rice et al., 1977; Women's Rights Project, 1977; Matthews and McCune, 1978; Cleveland State University, 1978; Jezierski, 1979).

There are simulation activities (Rice, 1977) and self-instruction packets (Etheridge and Rice, 1977) designed to help students examine constraints on their career choices, sex bias and sex stereotyping as these issues relate to work, minorities, schools, family and the law.

Some materials have been designed which focus specifically on male sex role stereotyping and males in non-traditional fields (Dowell and Greenwood, 1975; Sadker, 1977; Mitchell, 1976) or on women and work in both traditional and non-traditional careers (Thoni et al., 1972; Vetter et al., 1972; Mitchell, 1976).

There are also a number of non-print materials such as films and video tapes available. These include such films as Girls at 12 and Clorae and Albie. (WEECN, 1978) A slide show called "Facelift for Industrial Arts" (Patterson, 1974) shows women in industrial arts class and is designed to promote enrollment of females in such classes. The Michigan Department of Education (1980), the East Central Curriculum Management Center of the Illinois State Board of

Education (1979) and The Center for Vocational Education at Ohio State University (Justice and Budke, 1977) each publish lists of resources for promoting sex equity in vocational education.

The state of Illinois has produced at least two curriculum projects: Broadening the Scope of Involvement of Young Women in Occupational Education (Steiger, 1977) and Expanding Career Horizons (1978). Assistance for using the latter curriculum is available through the Illinois State Board of Education's Special Program's Section.

Women on Words and Images in Princeton, N.J. (1978) have developed a set of guidelines for evaluating vocational education materials (print, audio and visual) for sex bias in language, occupational and social roles, physical appearance. Ideas for creative use of biased materials in non-biased ways is also included.

Several guides for parents have also been published which include information about how sex role stereotyping limits a child's career options, suggestions for what parents can do themselves and/or to effect the system and lists of resources. (Women's Rights Project, 1977; Vetter et al., 1977; Michigan Vocational Resources Center a, b). These booklets can be used at open house, parents' night, PTA meetings and so forth.

Hansen (1977) describes a model program to involve parents and teachers in reducing career related sex role stereotyping. A selection of these publication is annotated and listed in a separate document, Annotated Bibliography of Selected Sex Equity Curricular and Other Materials.

Staff Development

A wide variety of in-service sex equity training materials for teachers has been developed. One of the best of these sets of materials are those developed by the Resource Center on Sex Roles in Educations under subcontract with the Council of Chief State School Officers and edited by McCune and Matthews (1978). These materials provide training session outlines and materials for a fifteen hour workshop sequence on Title IX and sex equity in education. These materials are available for Illinois use. Two sessions are designed specifically for vocational educators and focus on the social/educational and legal context, on recognizing and combating sex bias and planning for action. Other sessions are designed for the administrator and the counselor. All materials were field tested in the fall of 1977.

Other materials include a model tested with home economics teachers and male guidance counselors which changes awareness (Griffin and Kelly, 1978) and several workshop series which focus on career opportunities and awareness about sex stereotyping (Cubit-Sawyer, 1977; Ellis Associates, 1977; Birk, 1976; New Hampshire State Department of Education, 1977; Robertson et al., 1975). Kaser et al. (1978) have an inservice program specifically designed for vocational education personnel and Etheridge and Rice (1977) have a design for vocational educational administrators.

In addition several designs exist to promote general awareness about stereotyping and sex equity in education. (Clark, 1977; Nickerson et al., 1977; Feminists Northwest, 1976; YMCA of Oaha, 1978; Hanson, 1977; Tiedt, 1976) The Illinois State Board of Education's Adult, Vocational and Technical Education Department has 30 persons trained to provide workshops and technical assistance to educational agencies. There are also 19 Career Guidance Centers throughout Illinois which can provide similar services. The following chart indicates the activities to achieve sex equity which were conducted by the Illinois State Board of Education in 1979.

Preservice seems to be a more neglected area. A few sets of preservice materials exist. Tiedt (1976) has developed a learning guide for preservice teachers and Weinheimer (1978) a set of papers to be used in California vocational education teacher preparation programs.

Recent graduate and undergraduate catalogs of the public universities in Illinois which offer teacher preparation in vocational, occupational or technical education (as it is variously called) make no specific mention of any component of teacher preparation which focuses on issues of sex equity. (see Chart 1) Most universities offer courses such as methods of teaching vocational education or problems and trends in occupational education which might include sex equity content or curriculum training but this content was not mentioned in any course description. Except for methods courses, courses which could accomodate sex equity issues tent to be either elective courses or graduate level courses. Even when undergraduate courses (other than methods courses) were available which could lend themselves to sex equity issues they tended to be offered in home economics or business education and not in industrial-technology education.

Evaluation of Sex Equity in Vocational Education

One of the best resources for measures of educational equity has been developed by Williams et al. (1977, 1981). These authors have selected 61 measurement instruments which are appropriate for evaluating programs, curricula, materials, institutional changes and staff development. Each test and its uses, validity and reliability are described; the actual instruments are also reproduced in the 1981 version soon to be published. Draft copies of these instruments were not available for review and inclusion in this report.

Matthews and McCune (1976) have produced a set of guidelines for institutional self-evaluation which include checklists for teachers, counselors and administrators, in regard to compliance with Title IX. An information package which includes recommendations for assessing the progress of local programs has been produced by Rice and Etheridge (1977). Harris and Eros (n.d.) have developed a model for assessing community college vocational education according to: 1) relation of the curriculum to the job market; 2) level of occupational community support; 3) vocational aspirations of students; 4) student performance; 5) cost effectiveness; 6) the needs of the handicapped and the disadvantaged and 7) sex fairness. This appears to be a model that could be adapted to secondary schools and to post secondary settings other than the community colleges for which it was designed.

Summary of Major Findings

Policy

The federal government and many state agencies and businesses have developed specific policies with regard to sex equity in vocational training. Generally, these policies are articulated where mandated by law and the issue addressed is usually that of compliance to legislation. For the most part sex equity is addressed when it is the specific object of a policy study; otherwise, the issue does not seem to be integrated into educational policy studies.

This point is not sufficiently documented in this review. One way to check this assumption out will be to examine the final report of the N.I.E. Vocational Education Study due in fall of 1981. In the preliminary reports sex equity is only specifically mentioned in one essay.

Enrollment and Employment

Despite problems in the collection of accurate statistics it is readily apparent that women and men continue to be segregated into vocational programs which are considered traditional for their sex. Enrollment at both Illinois state and national levels throughout the 1970's has been more than 70% female in health, home economics and office programs and nearly 80% or more male in agriculture, technical and trade and industrial programs. Illinois enrollments generally reflect national enrollments.

Women still earn 59 cents for every dollar a man earns. One major factor sustaining this gap is the concentration of women in occupations considered traditional for their sex. This concentration reflects the largely sex segregated educational training and career counseling which women receive. Women comprise 60% to 80% of all clerical and service workers while men are 80% to 90% of all craft and farm workers, laborers and managers and administrators.

In the field of vocational education women are 60% to 96% of the teachers in health, office work and home economics while over 90% of agriculture, technical and trade and industrial teachers are men. These figures mirror student enrollment patterns. Supervisory positions are male dominated; nationally 20% of these jobs are held by women, while in Illinois the figure is a more encouraging 40%. Some programs have been developed to recruit women into non-traditional teaching roles and into administration but as the statistics indicate much more needs to be done in this area.

Strategies for Achieving Sex Equity for Students

Four major strategies have been and are being used to promote sex equity in vocational education: increasing career awareness through counseling procedures and programs; recruitment of students into programs not traditionally associated with their sex; review, critique and development of curriculum to promote awareness of sex equity issues and career options; and development of awareness of issues of sex equity in teachers, staff and parents.

A wide variety of resources exist to implement each strategy or combination of strategies. Some strategies have been tested and studied and found to be effective. The area in which the least efforts have been made is in preservice teacher education; few if any programs appear to exist.

Evaluation

Sufficient resources for evaluation appear to exist in the literature; however they are not uniformly disseminated. There are a wide variety of instruments which measure compliance with legislation, effects of curricula, effects of counseling programs, student and staff attitudes and the like and at least one model for overall assessment.

Table I

Percentage Distribution of Enrollment in Vocational Education Programs by Sex

	1972*				1979**			
	National Enrollment		Illinois Enrollment		National Enrollment**		Illinois Enrollment***	
	% Female	% Male	% Female	% Male	% Female	% Male	% Female	% Male
Agriculture	5.4	94.6	5.5	94.5	21.1	78.9	20.3	79.7
Distributive Education	45.3	54.7	40.7	59.3	54.8	45.2	50.4	49.6
Health	84.7	15.3	82.9	17.1	85.2	14.8	84.1	15.9
Home Economics	a. 92.1	7.9	85.8	14.2			79.4	20.6
	b. 86.1	11.9	93.1	6.9	81.9	18.1	85.2	14.8
Office	76.4	21.6	68.8	31.2	73.6	26.4	70.3	29.7
Technical	9.8	90.2	12.6	87.4	18.7	81.3	17.7	82.3
Trade & Industrial	11.7	88.3	9.6	90.4	16.2	83.8	13.2	[illegible]

* From Office of Education, Vocational and Technical Education, Selected Statistical Tables, 1972. Home Economics divided into two categories: a) Homemaking and consumer; b) Gainful home economics. Categories b is for occupational preparation.

** Calculated from 1979 OCR preliminary data (NIE 1981). Home economics data is in one category called home economics and appears to be for occupational home economics.

*** From Illinois State Board of Education, 1980.

Table 2

Percentage of Total Female Enrollment in Vocational Education

Program	1972*		1979**	
	National	Illinois	National	Illinois
Agriculture	.8	.6	2.5	2.1
Distributive	4.9	3.5	9.5	7.9
Health	4.8	5.3	10.3	10.3
Home Economics	49.5	8.9		
	4.1	16.6	13.3	18.5
Office	30.5	57.4	46.6	45.8
Technical	.6	.6	2.2	1.2
Trade & Industrial	4.8	7.0	9.0	8.0
Other	-	-	6.6	6.2

* From Office of Education (1972 c)

** Calculated from 1979 OCR
Preliminary data (NIE 1980)

Table 3

Percentage of Total Male Enrollment in Vocational Education

Program	1972*		1979**	
	National	Illinois	National	Illinois
Agriculture	18.8	9.0	9.5	8.1
Distributive	7.8	4.4	8.0	7.8
Health	1.1	.09	1.8	1.7
Home Economics	5.5	1.3		
	.9	1.1	3.0	3.8
Office	12.3	22.5	17.0	17.7
Technical	6.7	3.6	9.9	6.3
Trade & Industrial	46.9	57.3	44.2	47.8

* From Office of Education (1977c)

** Calculated from 1979 OCR
Preliminary data (NIE 1980)

Table 4

Percentage Distribution of Enrollment in Vocational Education Programs by Sex, 1975

Program	% Female	% Male
Agriculture	9.2	91.8
Health	71.7	28.3
Consumer Homemaking	73.2	26.8
Occupational Home Economics	81.9	18.1
Office	69.3	30.7
Technical	10.7	89.3
Trade & Industrial	12.6	85.4

(cited in Stern, 1977, p. 34)

Table 5

Percentage Distribution of Enrollment in Vocational Education Programs by Sex for Selected States 1973 - 1974

Program	Connecticut		Florida		Massachusetts		North Carolina		Texas	
	% Female	% Male	% Female	% Male	% Female	% Male	% Female	% Male	% Female	% Male
Agriculture	n.a.		14	86	n.a.		n.a.		n.a.	
Health	97	3	90	10	96	4	8[illegible]	11	84	16
Home Economics	77	23	90+		88	12	9[illegible]	4	83	17
Office	n.a.		90+		80	20	42	58*	57	43
Technical	n.a.		19	81	11	88	11	88	4	96
Trade & Industrial	n.a.		11	89	6	94	15	85	9	91

* Most males concentrated in management, accounting and data processing

(cited in McClure, 1977)

Table 6

Percent Distribution of Vocational Education Enrollments By Sex, Race, and Ethnicity for Selected Occupational Programs in 1979

	Occupational Area	Male	Female	White	Black	Hispanic	Other
Vocational Agriculture	100.0						
Agricultural Production	45.2	86.1	13.9	90.7	4.4	3.3	1.6
Agricultural Supplies/Services	5.0	80.0	20.0	93.1	3.2	2.7	1.0
Agricultural Mechanics	17.8	94.9	5.1	87.2	10.1	1.9	0.8
Agricultural Products	1.4	81.5	18.5	85.3	10.8	2.2	- -
Ornamental Horticulture	18.6	54.9	45.1	86.3	8.3	2.3	2.6
Agricultural Resources	4.0	77.7	22.3	93.4	4.7	0.8	1.1
Other Agriculture	3.0	86.6	13.4	91.0	6.3	1.1	1.6
Technical Education	100.0						
Architectural Technology	7.3	79.4	20.6	75.9	10.9	8.6	4.6
Automotive Technology	2.6	93.0	7.0	87.2	8.4	1.2	3.2
Civil Technology	4.5	90.2	9.8	84.2	8.1	4.9	2.8
Electrical Technology	4.4	94.4	5.6	84.0	9.5	4.3	2.2
Electronic Technology	22.9	91.0	9.0	80.8	9.7	5.3	4.2
Environmental Control Technology	1.7	93.0	7.0	85.2	6.4	5.1	3.3
Industrial Technology	3.4	87.8	12.2	84.9	12.2	1.8	1.1
Mechanical Technology	6.9	89.9	10.1	85.5	9.6	2.7	2.2
Scientific Data Processing	4.4	44.1	55.9	77.9	3.6	15.5	3.1
Commercial Pilot Training	2.4	81.4	18.6	92.8	3.8	1.8	1.6
Fire and Fire Safety Technology	3.2	95.8	4.2	90.1	7.2	1.5	1.2
Police Science Technology	16.9	74.8	25.2	78.0	17.8	1.7	1.5
Water and Waste Technology	0.9	82.6	17.4	85.5	6.3	3.8	4.4
Other Technical Education	18.5	63.6	26.4	80.8	14.0	4.0	1.2

Table 6 cont'd.

	Occupational Area	Male	Female	White	Black	Hispanic	Other
Distributive Education	100.0						
Advertising Services	1.7	51.8	48.2	82.3	14.3	2.3	1.1
Apparel and Accessories	4.6	16.0	84.0	79.1	16.1	4.0	0.8
Automotive	1.2	85.6	14.4	86.9	9.9	2.7	0.5
Finance and Credit	4.6	27.5	72.5	88.3	6.1	3.9	1.7
Floristry	0.5	26.9	73.1	89.5	7.8	2.3	0.4
Food Distribution	4.6	59.5	40.5	82.2	11.2	5.4	1.2
Food Services	5.3	43.8	56.2	76.7	17.7	3.3	2.3
General Merchandise	35.5	56.1	43.9	77.5	14.7	5.5	2.3
Hardware, Building Materials, etc.	0.6	78.3	21.7	90.0	6.1	3.6	0.3
Home Furnishings	0.4	40.3	59.7	90.8	6.4	2.1	0.8
Hotel and Lodging	2.1	59.5	40.5	72.8	15.6	4.2	7.4
Industrial Marketing	3.2	63.0	37.0	76.6	12.6	9.7	1.2
Insurance	1.2	51.8	48.2	75.3	23.3	1.1	0.4
Personal Services	1.0	38.3	61.7	80.8	14.0	4.2	1.0
Real Estate	18.0	50.9	49.1	89.5	5.4	3.7	1.4
Recreation and Tourism	2.6	50.5	49.5	82.5	11.8	3.8	1.8
Transportation	1.9	73.1	26.9	84.1	11.8	2.9	1.2
Retail Trade, Other	2.8	43.4	56.6	82.8	14.5	2.0	0.7
Other Distributive	8.2	49.4	50.6	79.3	13.9	6.0	0.8

Source: The Vocational Education Data System information, collected in 1979

From: The Vocational Education Study: The Interim Report, September 1980
(Vocational Education Study, Pub. 3)

Table 7

Median Earnings of Year-Round Full-Time Civilian Workers by Occupation Group and Sex, 1977

(Persons 14 years of age and over)

Occupation group	Women	Men	Dollar gap	Women's earnings as a percent of men's	Percent men's earnings exceeded women's
Total	$8,618	$14,626	$6,008	58.9	69.7
Professional and technical workers	11,995	18,224	6,229	65.8	51.9
Accountants	11,155	17,312	6,157	64.4	55.2
Computer specialists	15,135	18,849	3,714	80.3	24.5
Health workers (except physicians, dentists, and related practitioners)	12,093	13,360	1,267	90.5	10.5
Teachers	11,970	15,790	3,820	75.8	31.9
College and university	15,172	20,337	5,165	74.6	34.0
Elementary and secondary	11,732	15,029	3,297	78.1	28.1
Engineering and science technicians	11,566	15,147	3,581	76.4	31.0
Managers and administrators	9,799	18,086	8,287	54.2	84.6
Salaried	10,272	19,023	8,751	54.0	85.2
Manufacturing	11,277	22,523	11,246	50.1	99.7
Retail trade	8,437	15,076	6,639	56.0	78.7
Finance, insurance, and real estate	10,684	19,696	9,012	54.2	84.4
Public administration	12,568	18,673	6,105	67.3	48.6
Other industries	10,839	20,220	9,381	53.6	86.5
Self-employed	4,258	12,428	8,170	34.3	191.9
Retail trade	4,732	10,554	5,822	44.8	123.0
Sales workers	6,825	16,067	9,242	42.5	135.4
Insurance, real estate, and stock agents and brokers	11,020	18,907	7,887	58.3	71.6
Retail trade	5,529	11,110	5,581	49.8	100.1
Sales clerks	5,413	10,114	4,701	53.5	86.8

Table 7 cont'd.

Occupation group	Women	Men	Dollar gap	Women's earnings as a percent of men's	Percent men's earnings exceeded women's
Clerical workers	$8,601	$13,966	$5,365	61.6	62.4
Bookkeepers	8,516	13,520	5,004	63.0	58.8
Cashiers and counter clerks (except food)	6,632	10,139	3,507	65.4	52.9
Office machinery operators	9,019	13,076	4,057	69.0	45.0
Craft and kindred workers	8,902	14,517	5,615	61.3	63.1
Blue-collar worker supervisor, n.e.c.	9,138	16,202	7,064	56.4	77.3
Operatives, including transport	7,350	12,612	5,262	58.3	71.6
Manufacturing	7,479	12,644	5,165	59.2	69.1
Durable goods	8,305	12,648	4,343	65.7	52.3
Nondurable goods	6,736	12,631	5,895	53.3	87.5
Nonmanufacturing	6,401	12,536	6,135	51.1	95.8
Operatives (except transport)	7,342	12,384	5,042	59.3	68.7

From: U.S. Department of Labor, Women's Bureau 1979.

Table 8

Percentage Distribution of Full Time
Vocational Education Teachers and Supervisors

Assignment	National				Illinois	
	1972*		1979**		1979**	
	% Females	% Males	% Females	% Males	% Females	% Males
Agriculture	5.4	94.6	5.7	94.3	8.7	91.3
	45.3	54.7	27.4	72.6	21.6	77.4
Health	84.7	15.3	83.1	16.9	79.8	20.2
Occupational Home Economics	86.1	13.9	86.9	13.1	94.5	5.5
Office	76.4	23.6	63.4	36.6	58.9	41.1
Technical	9.8	90.2	9.2	90.8	7.5	92.5
Trade & Industrial	12.2	87.8	9.1	90.9	4.5	95.5
Consumer & Home	92.1	7.9	96.3	3.7	91.4	8.6
Industrial Arts	n.a.	n.a.	3.8	96.2	1.3	98.7
Supervisors	n.a.	n.a.	20.5	79.5	39.6	60.4

* Office of Education (1972 b)

** Calculated from 1979 OCK preliminary data (NIE 1980)

CHART 1

School	Department(s) Offering Vocational Education Teacher Preparation	Courses Which Could Include Sex Equity Content (Note: No Such Content Was Specifically Mentioned)
Chicago State University (1979/80 Undergraduate/ Graduate Catalog)	Department: Occupational Ed. B.S. Industrial Arts Ed. Vocational-Technical Ed. M.S. Occupational Cooperative Ed. Teaching of Occupational Subjects	V.E. 488 Problems and Trends in Occupational Education V.E. 492 Contemporary Vocational Education in the U.S. (Master's Level Courses) Methods Courses
Southern Illinois University (1978/79 Bulletin Undergraduate Catalog V. 19, N. 6)	Vocational Education Studies Department Bachelors Degrees In: Agriculture Ed. Business Ed. Home Economics Ed. Occupational Ed.	Home Ec. 327-3 Home Economics for Men (And Women) Home Ec. 433-3 Women and the Politics of Education A variety of methods courses, workshops, special problems courses and readings courses.
1978/79 Bulletin Graduate Catalog	Doctoral Programs in Occupational Education	VES 576-3 Policy Implementation and Supervision of Vocational, Occupational and Career Education Programs
Eastern Illinois University (1979/80 General Catalog)	Bachelor's Degrees In: Business Ed. Career Occupations Home Economics Industrial Technology Technology Ed.	Bus.Ed. 4920 Organization and Operation of Vocational Business Education Programs Home Ed. Women in Contemporary Society Special problems and methods courses.

Chart I cont'd.

School	Department(s) Offering Vocational Education Teacher Preparation	Courses Which Could Include Sex Equity Content (Note: No Such Content Was Specifically Mentioned)
Western Illinois University (1978/79 Undergraduate Catalog V. 1, N. 8)	Bachelor's Degrees In:	
	College of Applied Sciences Department of Agriculture Agriculture Ed.	Vocational and Technical Education in Agriculture
	Department of Home Economics Home Economics Ed.	Home Economics in Contemporary Society
	Department of Industrial Education and Technology Industrial Ed.	
	College of Business Department of Business Ed. Business Education	Organization and Administration of Vocational Business Education Programs
		Methods courses in each department.
	No Graduate Program	
University of Illinois-Urbana-Champaign (1979/81 Undergraduate Catalog)	Bachelor of Science	Methods and Special Problems Courses
	Occupational and Practical Arts Technical Education Specialties Agricultural Occupations for Secondary Teachers Business Education Home Economics Education	
(1980/82 Graduate Catalog)	Master's/Doctorate	
	Vocational and Technical Ed.	

Chart 1 cont'd.

School	Department(s) Offering Vocational Education Teacher Preparation	Courses Which Could Include Sex Equity Content (Note: No Such Content Was Specifically Mentioned
Northern Illinois University (1978/79 Bulletin Undergraduate Catalog V. 9, N. 6)	Bachelor of Science	Methods Courses
	Home Economics Education	
	Secondary Teacher-Industry and Technology	
(1978/79 Graduate Catalog V. 9, N. 2)	No Specific Programs	(See Frank 1979 for Program for Women in Vocational Education Administration)
Illinois State University	Bachelor of Science	
	Agriculture Ed. Business Ed. Health Ed. Home Economics Ed. Industrial Ed.	Methods Courses
Governors State University	Bachelor of Arts	
(80/81 Catalog)	Urban Business Education	Methods Courses (There is a women's studies program here.)

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Conference Reports on the Educational and Occupational Needs of Women. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, National Institute of Education, 1976-78.

Conference reports on the various educational and occupational needs of minority women: American Indian, Hispanic, Asian, Pacific American; White Ethnic.

Cracking the Glass Slipper: PEER'S Guide to Ending Sex Bias in Your Schools. Washington, D.C.: Project on Equal Educational Rights (PEER), National Organization of Women's Legal Defense and Education Fund.

Methods for evaluating school programs in terms of sex bias, and methods for ameliorating problems.

Diamond, Ester E. (Ed.) Issues of Sex Bias and Sex Fairness in Career Interest Measurement. Washington, D.C.: Department of Health, Education and Welfare, National Institute of Education, Career Education Program, 1975.

Collection of papers answering question of what to do about sex stereotyping and bias in employment.

Frank, Frederick P., & Mackett-Frank, Muriel. New Opportunities in Vocational Education. DeKalb, IL: Educational Administration Center, Department of Leadership and Policy Studies. College of Education, Northern Illinois University, 1980. (4)

These reports present an affirmative action framework for training women in vocational education administration. In addition, prevailing attitudes toward women in vocational education are analyzed.

Heller, Barbara, Gross, Linda, & Senf, Rita. Sex Differences in Cooperative Education: A Study of First-Time Cooperative Education Students in Traditional and Non-traditional Occupations. New York: Institute for Research and Development in Occupational Education at the Center for Advanced Study in Education, The Graduate School of City University of New York, November, 1979.

Research into attitudes and expectations of male cooperation education students in traditionally female occupations and female cooperative education students in traditionally male occupations.

Heller, Barbara, & Gross, Linda. Sex Differences in Cooperative Education: A Study of Sex Stereotyping Related to Selected Institutional, Employer, and Cooperative Education Program Characteristics. New York: Institute for Research and Development in Occupational Education, City University of New York. September, 1978.

Report describes a pilot study to investigate sex difference in the cooperative education work experience.

Kozuch, F., & Kobylecky, R. Women: Research Resources at Roosevelt University. Chicago, IL: Roosevelt University Library, January, 1981.

> "The collection reflects the changing attitudes of society, having old as well as new books on the 'women situation'." The bibliography contains references to books, biographies, directories, handbooks, statistics, and periodical indexes. It is a comprehensive source of general information of all current topics of women in education and the work world.

Miguel, Richard, & Jipp, Lester. Youth in the Workplace: The Dynamics of Learner Needs and Work Roles. Columbus, OH: The National Center for Research in Vocational Education, Ohio State University, 1980.

> Report of the results of "an exploratory study designed to create a typology of programs based on the normative and personalistic dimensions of experiential education."

Monitoring Implementation of the 1976 Vocational Education Amendments. Washington, D.C.: Federal Education Project, 1980.

> The Federal Education Project's questionnaire for monitoring of the 1976 Vocational Education Act Amendments. A set of questionnaires and a guide for their use.

Natioanl Equity Colloquium at the National Center for Research in Vocational Education, Columbus, Ohio, February 26-27, 1981.

> A series of monographs resulted from this Colloquium; each focusing on sex equity as well as other special equity issues.

Ott, Mary Diederich, et al. The Identification of Factors Associated with Sex-role Stereotyping in Occupational Education. Ithaca, N.Y.: Cornell Institute for Occupational Education, Education Department, Cornell University, March, 1980.

> Report identifies factors associated with fostering and overcoming sex-role stereotyping. Also identifies those factors associated with sex-role stereotyping which have potential for change through appropriate affirmative action. In addition, the report represents recommendations for overcoming sex-role stereotyping.

Poll, Carol. Sex Equity Education Resource Guide. New York: New York City Board of Education, n.d.

> The Guide is based on an assessment of the needs of the school system and draws upon interviews with administrators, teachers, parents, students and community group members. The Guide is intended to facilitate the implementation of the Title IX regulations.

Vetter, Louise, Burkhardt, Carolyn, & Sechler, Judith. A Guide for Vocational Education Sex Equity Personnel. Columbus, OH: The National Center for Research in Vocational Education, Ohio State University, 1978.

> This guide was written for sex equity supervisors. It contains ways of identifying sex bias and discrimination in vocational education programs and suggestions for overcoming them.

Women on Words and Images, Inc. Sex Fairness in Education Division, Communications, Products and Dissemination Strategies. Washington, D.C.: National Advisory Council on Women's Educational Programs, 1977.

> Overcoming sex bias in language use, job titles, and education programs "communications."

Policy/Model Program

Coleman, Deborah Dye, & Beckman, Carol. The Ecology of Youth Participation in Work Settings: Implications for Linking Home, School, and Work for Facilitating Communication between Youth and Adults. Columbus, OH: The National Center for Research in Vocational Education, Ohio State University, 1980.

> Research report on how differences in relationships among the environments of home, school, and work might influence opportunities for youth development.

Crowe, Michael, & Harvey, R. J. Learning and Retention of Basic Skills in Alternative Environments. Columbus, OH: The National Center for Research in Vocational Education, Ohio State University, 1980.

> "Preliminary investigation of the learning and retention of selected reading and mathematical concepts resulting from student enrollment in a traditional learning environment and in a learning-in-work environment."

Handbook to Develop a Plan of Action for Equity in Vocational Education. St. Paul, MN: Minnesota State Department of Education, Vocational-Technical Division.

> Materials used to develop a process for evaluation vocational programs in Minnesota for services to women. Handbook contains plan of action for sex equity in vocational education.

New Opportunities in Vocational Education. DeKalb, IL: Educational Administration Center, Department of Leadership and Educational Policy Studies, College of Education, Northern Illinois University, 1979-80. (4 reports)

> Report of work done at Northern Illinos in developing competency based

model graduate programs for preparing occupational educational administrators, among others.

Smith, Amanda J. New Pioneers: The North Carolina Program to Eliminate Sex-Bias in Occupational Education. Raleigh, N.C.: North Carolina Department of Public Instruction, January, 1977.

Developed a model for eliminating barriers to occupational training to students who take courses in occupations previously limited to members of the opposite sex. Model includes ways to assess employer's attitudes and to identify sex-biased employment barriers.

Wirtenberg, Jeana, Klein, Susan, Richardson, Barbara, & Thermar, Veronica. "Sex Equity in American Education," Educational Leadership 38 (1981) n.4. 311-319.

"Documenting discrimination is the first step; promoting equity is the next." This article is a comprehensive review of literature; it does not focus specifically on vocational education.

Policy - Staff Development

Educational Management Services, "A Comprehensive Needs Assessment Study of Adult and Vocational Education Programs and Services within Illinois." September, 1977.

Evaluation of the Illinois Department of Adult, Vocational and Technical Education's (DAVTE) performance in providing services and consultations to LEA and adult education administrators.

Equity in Vocational Education: Plan of Action. Minneapolis, MN: Hennepin (County, Minnesota) Technical Centers.

Examples of sex equity plans of action.

Lewis, Gwendolyn. The Identification of Factors Associated with Sex-role Stereotyping in Occupational Education. Ithaca, N.Y.: Cornell University, 1980.

This study was carried out to document the influence of parents, peers, and school personnel on students' attitudes towards selecting and enrolling in particular occupational education programs. The study was designed to cover three aspects of influence - the source, the degree and the direction. The intention was to document the differential influence of various groups on girls and boys in specific situations.

Looney, Ginny. The Unfulfilled Promise of Vocational Education. Atlanta: The Vocational Education Monitoring Project, American Civil Liberties Union Foundation of Georgia, 1980.

A report on race and sex equity in vocational education in Georgia. The report includes documentation of inequities and recommendations for change.

On-Site Evaluation of Post Secondary Vocational Programs by Sex Equity Criteria. St. Paul, MN: Minnesota Department of Education, 1980.

A manual for evaluation of sex equity progress.

Project Second Look, Vocational Counseling for Displaced Homemakers. Washington, D.C.: U.S. Department of Education, 1980.

Helping displaced homemakers move from housework to paid-work through vocational training.

Vetter, Louise, Burkhardt, Carolyn, & Sechler, Judith. Vocational Education Sex Equity Strategies. Columbus, OH: National Center for Research in Vocational Education, Ohio State University.

A comprehensive training package for use by Sex Equity Supervisors to be utilized in implementing sex equity legislation. It is a rich source of practical materials readily adaptable to a variety of training needs.

Model Program

Actions for Change: A Planning Guide for Occupational Equity. Albany, N.Y.: The University of the State of New York, State Education Department, Office of Occupational & Continuing Education, Special Programs Unit.

Planning guide and model forms for establishing equal occupational education programs.

Lerner, Jane, et al. Equal Vocational Education (EVE): Final Report. Houston, TX: University of Houston: Institute of Labor and Industrial Relations, Available from the ERIC Clearinghouse at Ohio State University.

Information regarding a model adaptable throughout Texas that would enable school districts to increase and maintain female enrollment in vocational programs that had traditionally been dominated by males.

Today's Changing Roles: An Approach to Non-Sexist Teaching. Washington, D.C.: Developed by Educational Challenges, Inc., for Resource Center on Sex Roles in Education, The National Foundation for the Improvement of Education, n.d.

Teacher resources with curriculum related activities in elementary, intermediate, and secondary schools dealing with (1) exploring sex role stereotypes, (2) clarifying and understanding the meaning of sex role stereotypes, and (3) applying the learning to our lives and our futures.

Vetter, Louise, Lowry, Cheryl, & Burkhardt, Carolyn. Sugar and Spice is Not the Answer: A Parent Handbook on the Career Implications of Sex Stereotyping. Ohio: National Center for Vocational Education, Ohio State University, 1977.

Handbook about how children's future career options are limited by sex stereotyping, why it is important that they not be limited, and what parents can do about it.

Staff Development

Feminists Northwest. Project Awareness: A Multi-state leadership project addressing sex discrimination issues in education. Seattle, WA: Washington State Department of Education, February, 1977.

An outline of awareness workshop using a prepared multi-media kit available on loan from State of Washington, Department of Education.

Herman, Alexis M., Director. Women's Bureau. Department of Labor, 1980.

A source of books and pamphlets containing information regarding most aspects of women in the work world. Topics such as women in management, minority women workers, working mothers and their children, women in apprenticeship programs, etc. are covered by the Women's Bureau publications.

Resources for Sex Equity: 1980-81 Catalog. Newton, MA: Women's Educational Equity Act Publishing Center, Educational Development Center.

A catalog of materials produced through WEEA projects.

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Asser, E., Davis, S., Hill, J., Laffey, J., Olson, G., Schreiber, S., Schwartz, H. Progress Beyond Access: A Five-Year and Annual State Plan for Sex Equity in Vocational Education in Illinois. Chicago: Roosevelt University, College of Education, 1978.

Asser, E., Davis, S., Hill, J., Laffey, J., Olson, G., Schreiber, S., Schwartz, H. Progress Beyond Access: A Technical Report in Support of a Five-Year and Annual State Plan for Sex Equity in Vocational Education in Illinois. Chicago: Roosevelt University, College of Education, 1978.

APPENDIX

Advisory Committee

Jane Adair	Sex Equity Supervisor
Sandy Eells	Sex Equity Consultant
Sue Jones	Title IX Coordinator
Rita Kalfas	Coordinator, Civil Rights Team
Linda Lafferty	Program Approval and Evaluation
Mary Ann Merano	VEDS
Peter Seidman	Research & Development Contract Officer

Expert Review Panel

Judith Gappa	Associate Provost, San Francisco State University Editor for Sex Equity Colloqium Papers, The National Center for Research in Vocational Education, February 1981
Jody Martinez-Martin	Teacher Education Specialist, Teacher Education Program Approval, Illinois State Board of Education
Sally Pancrazio	Manager, Research and Statistics, Illinois State Board of Education
Henrietta Schwartz	Dean, College of Education, Roosevelt University
Lucille Campbell-Thrane Louis Vetters	National Center for Research in Vocational Education
Philip A. Viso	Assistant Superintendent of Schools, Chicago Board of Education

Definitions of Concepts Related to Sex Equity

ACCESS. Is there equal access for boys and girls to quality services and programs, in guidance and counseling services, class assignments, career preparation and training programs, curricular and extra-curricular activities, work study programs, etc.?

TREATMENT. Are males and females portrayed equitably and are students treated equally in class activities, student-teacher relationships, classroom climate, coeducational programming, counseling and guidance services, curriculum guides, distribution of physical facilities, vocational programs, etc.? Specifically, is the language sexist? What kind of role models are presented and implemented?

ALLOCATION OF RESOURCES. How are faculty and students assigned to classes? Are class schedules designed to accommodate the special needs of males and famales? Are support services available to permit working mothers to receive vocational education (e.g., day care facilities, baby-sitting services)? What are the recruitment practices? Are fiscal resources equitably distributed to support program promoting sex equity?

AWARENESS, EVALUATION, AND PROGRAM CORRECTION. Has the agency or school collected data indicating the level of awareness of the issue of sex equity among the educational staff? Have the data been used to institute programs to raise levels of awareness of remediate biases? Have attempts been made to articulate equitable programs among the various levels and components of the vocational education agency program in the system? Have employment data (in terms of trends, forecasts, and projections) been collected and distributed to staff and students? Is sex equity implemented in affirmative action programs, tolerated benignly, neglected, or actively discouraged?

Progress Beyond Access: A Technical Report in Support of a Five-Year and Annual State Plan for Sex Equity in Vocational Education in Illinois, Chicago: Roosevelt University, College of Education, 1978, 4 - 5.

Curriculum Development

1. Can you give examples of model curricular development activities?
2. Are you aware of parent education programs which emphasize sex equity?
3. Have there been analyses of curricular materials for sex equity?

Staff Development

1. Are you aware of any model in-service activities?
2. Do you have the materials developed for them? or can you cite sources?
3. Are you aware of model pre-service programs? or research activity in regard to staff development?
4. Are you aware of pre-service or in-service efforts of sex equity counselors?

Model Program

1. Can you cite model programs?
2. Are there any model monitoring systems at the local level?

Policy Changes

1. What data sources can you specify in regard to Illinois implementation of Sex Equity in Vocational Education, in addition to the head count statistics already gathered?
2. How effective are these sources?
3. Are you aware of business programs which emphasize sex equity?
4. Are you aware of any longitudinal or state initiated follow-up studies in regard to PL 94-482?
5. Are you aware of analyses of model counseling programs which emphasize sex equity?
6. Where does one start to achieve sex equity when all data show no one approach works?
7. Should there be separate special programs for men and women to understand sex equity issues?

Jason, M.H. and Schwartz, H.S.

A GUIDEBOOK TO ACTION RESEARCH FOR THE OCCUPATIONAL EDUCATOR, 1976

CHAPTER XII

SURVEY RESEARCH

Henrietta S. Schwartz

After studying this chapter, the practitioner should be able to:

1. determine when descriptive and status information is necessary to plan programs.
2. frame a survey question and objectives.
3. design and conduct a survey.
4. design a survey instrument.
5. collect and analyze data from survey instruments.
6. report findings as they are related to the problem and offer recommendations.

The Purpose of Survey Research

Survey research is another form of descriptive research. It attempts to determine characteristics about samples that can be generalized to the population.[1] This technique is used to determine the status of groups, to compare status and standards, to improve standards, to gather information prior to decision making for conducting further research, or in order to make informed policy decisions regarding practical matters.

Surveys describe the existing state of some issue, problem or phenomena to be studied. They may be broad or narrow in scope depending upon the problem to be investigated. Surveys may encompass several countries or they may be confined to a single nation, state, city, school system or smaller unit of analysis.[2] Needs assessments are a form of survey research as are public opinion polls, market analysis studies, environmental impact investigations and the national census.

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[1] D. B. Van Dalen, Understanding Educational Research, 3rd Edition, N.Y. McGraw-Hill Book Co., 1973, p. 195.

Types of Survey Research

Surveys can be done by mail, by telephone, by door-to-door contacts, by the analysis of written documents, by observations of behavior, by interview, etc. Counting the number of cars which pass a particular corner during a two hour period can be done by a machine and this is a survey. Data for surveys can be collected in a wide variety of ways. But the technique for collecting data should be related to the problem or condition being surveyed and preserve the confidentiality of the individual respondent.

There is a wide range of content covered in the educational survey research area, but all surveys have several common elements. The studies investigate some social or educational problem that has relevance to the local school/community or to the school itself.

Surveys are descriptive in nature; they do not compare two types of educational programs or social phenomena. The studies seek only information from samples within a given population. For example, last year one counselor sought information from students at a public high school as to why they had enrolled in sex stereotyped occupational and home economics courses, that is, girls in Auto Shop and boys in Cooking and Family Living Courses.[3] Two Office Occupations instructors in a comprehensive high school surveyed businesses in their local community seeking information on the extent of the use of the rotary calculator in the field in order that they might better order supplies and plan their business machine courses at the school.[4] Another director of vocational education is a downstate Illinois community surveyed the student population to determine the number who might be interested in a health occupations program and at the same time surveyed the community to determine market need before embarking on the program.[5] Each of these surveys raised interesting questions for further action research. More importantly, the studies generated data for decision making at the local school/community level.

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[2] A. Yonke, "The Survey Research Projects", Reports of Action Research Projects, Roosevelt University and DAVTE, April 1975, pp.42-43.

[3] Xandra Kaczala, "A Study of Non-Sex Stereotyped Course Selection Among High School Students", Reports of Action Research Projects, pp. 63-70.

Van Dalen[6] defines five common survey types:

1. School Surveys Three general methods are used in making school surveys; (1) the outside expert survey, (a one-shot survey by a visiting authority), (2) the self-survey, (an internal survey designed and carried out by the school staff, e.g., the self study done before a North Central Association visit), and (3) the cooperative survey, (a joint effort among the staff, the outside expert and/or the community). The information in this chapter is directed largely at the self-survey technique at the classroom, department, school, and district levels.

2. Job Analysis Surveys This technique is borrowed from industry and seeks to describe current practices and conditions of employment, the competencies and behavioral traits that occupational education personnel possess or should possess to carry out their work effectively and efficiently.

3. Documentary Analysis This technique involved the analysis of the content of communication in order to describe a phenomena or social unit. Documentary analysis frequently is used to analyze the content of textbooks and curriculum material particularly when controversial issues are involved, e.g., sex role bias, racism.

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[4] Robert Caldwell and Bruno De Maertelaere, "Feasibility Survey on the Use of Rotary Calculators in Businesses in the Chicago Area", Reports of Action Research Projects, pp. 56-62.

[5] Personal conversation with Mr. Dale Stretch, Assistant Superintendent, Hillsboro Public Schools, February, 1976. Consideration must be given to a variety of variables before embarking on a new program. The current market situation might not indicate a need for the program immediately. Here the professional judgement of the occupational educator must determine the trends in future needs presented by national and regional projections.

[6] D. B. Van Dalen, Understanding Educational Research, pp. 199-207.

4. Public Opinion Surveys This technique employs a variety of data collection devices to find out how people feel about a particular issue. The Harris and Gallup Polls are examples of this type of survey.

5. Community Surveys Typically, these are in-depth studies of the status of a total community or one aspect of the community's conditions. Examples of this form are the Middletown and Middletown in Transition studies of Lynd's which described a changing culture in an average midwestern town over several years.

It is possible that the occupational educator may wish to use any one of the five types of surveys. Indeed, the commom procedures required of any survey will be discussed later in the Chapter. At this point, however, attention will be focused on the kinds of questions which may be addressed by doing an educational survey at the national, school, community, state, local, and classroom level. Educational surveys can provide information on:

1. The setting for learning Surveys can provide information about the legal, administrative, social, or physical setting for learning. Assume the state has passed certain safety regulations governing the use of punch press equipment in occupational education classes. A district wide survey could be undertaken to determine if safety conditions and regulations are being met, what corrections must be made prior to state inspection, and how best to protect the health and safety of students and faculty.
2. The characteristics of educational personnel Studies can be made about the personal and professional characteristics of administrators, teachers, supervisors, and other educational personnel, as these characteristics relate to the operation of the educational program.
3. The nature of students Acquiring information about the students' behavior, beliefs, knowledge, skill, family background, educational abilities, interests, physical condition, and so on is the purpose of this kind of survey.

4. The nature of the educational process Educational programs, processes, and outcomes may come under investigation as one analyzes the curriculum. In its broadest sense the curriculum may be surveyed as to its structure, function, content, patterns, and purposes.

When doing a school survey the investigator should determine which of the four focal points the survey is addressing.

The Techniques to be Used in Conducting Any Survey

The occupational educator most often uses surveys to identify, develop, and evaluate programs in the field. Whatever the purpose of the survey, there are certain key steps to be taken or the collected survey data will not be useful. The most complete and detailed document for this purpose was sponsored by the Division of Vocational and Technical Education of the State of Illinois in 1973.[7] In summary, the following steps are recommended for the conducting of a survey:

1. Define the problem requiring information by type, by location, by function, by time, and within the limitations of the possible scope of the investigation.

Example: Are vocational programs in the district in compliance with federal and state safety regulations?

2. Define the population and the sample.

Example: All labs in the school district comprise the population and all will be sampled.

3. What questions must be asked to gather the information necessary to complete the survey?

Example: What are the state safety regulations for each type of lab? These should be listed on the survey form and the instructor and, if possible, an outside investigator such as the principal, an occupational education supervisor, another teacher, should determine if the lab is in compliance, in the process of meeting standards, meets standards, or exceeds them.

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[7] Much of the material in this chapter is based on the "Handbook for Completing Surveys" found in the Illinois Occupational Curriculum Project manual, Volume I, Occupational Program Identification by Joseph A. Borgen and Dwight E. Davis, funded by the Joliet Junior College and the Division of Vocational and Technical Education and the State of Illinois, 1972, pp. Y39-Y80. The book is now published commercially.

4. What techniques will be used for collecting the necessary information?

Example: Questionnaire based on state code, visual inspection, self-report and outside evaluator's completion of the same instrument. Mail instrument and do follow-up mailings or visits to get responses.

5. What are the time limitations for completing the survey?

Example: Duration is determined by state inspection visit and the ability of school district personnel to complete questionnaire and inspection regarding lab safety conditions.

6. Who will assist in completing the survey?

Example: The vocational educators in each lab, the administrators, and the supervisors at the local level as well as state personnel should be involved in the data collection. Probably the district office staff should co-ordinate data collection and prepare report.

7. Can a sample of data be presented and if so, on what criteria?

Example: The survey relating to safety conditions in labs must include data from the entire population. However, if one were doing a survey about the attitudes of students concerning the level of interest in a commercial photography course, a random sample of the high school or upper grade population could be taken. Procedures for determining a random sample are described in Chapter 5.

8. What form should the instrument take?

Example: The instrument should be designed to include information relevant to the question under investigation and some items which serve as a cross check on the major conditions being investigated. The instrument concerning the safety regulation survey might look something like the sample survey form which follows.

SAMPLE SURVEY FORM

Name of the Study and Name of the Sponsoring Agency

Directions: Respond by checking the appropriate column for each of the regulations shown at the left side of the page. Enter comments under the regulation on the lines specified. Please fill in the information concerning the lab being surveyed.

________________________ Date

________________________ Teacher's Name

________________________ Position

________________________ School District

________________________ School

________________________ Type of Lab

________________________ Name of Examiner

Safety Regulations:	Exceeds Standard 4	Standard 3	Was Being Improved to Meet Standard 2	Below Standard 1
1. All machines have functional safety guards.				
Comments ________________________				
2. Lab has adequate fire extinguishers visibly mounted.				
Comments ________________________				
3. Students wear safety goggles when operating machines.				
Comments ________________________				

____

8. (Continued) What form should the instrument take?

Example: In constructing the instrument one should select or ask for information that is relevant based on the objectives of the study as indicated in the problem definition. The items and questions should be specific and the response format should, where possible, be uniform throughout the instrument, e.g., true-false, multiple choice, 1-5 rating scale. Clear statements and avoidance of highly technical terms should be the guiding principles for the vocabulary of the instrument. The survey form should be as short as possible, but long enough to obtain the necessary information.

9. Should there be a cover letter or covering directions?

Example: If the survey of compliance with safety regulations in labs is to be district wide, the cover letter should be done by the district office and signed by the director of vocational education or the superintendent. A cover letter soliciting participation is always a good idea as is a thank-you letter with a copy of the report to all participants.

10. How should the survey be conducted?

Example: The self-survey can be done by mail distribution or through the building principal to lab teachers, or by other means of delivery. The outside examiner must also be given the instrument and appropriate time to examine the labs assigned to him. These examiners must have a requisite level of expertise to judge the adequacy of the equipment and safety measures and should be chosen carefully. A time line should be devised for the return of the self survey done by the lab teacher and the one done by the outside examiner. Appropriate follow-up communication should be devised, telephone requests where necessary, and personal contacts if returns are not coming in as anticipated.

11. How will the data from the instrument be analyzed, organized, tabulated, and presented?

Example: In this instance a dual survey is being conducted, one by the lab teachers and a parallel study by an outside examiner. The instrument will be analyzed to provide a district-wide picture of the status of each regulation, and an individual school and lab picture of the status of each regulation. The ratings of the lab teachers and the ratings of the outside examiners will be compiled separately and then compared. Generally, the technique will be one of counting frequencies in each of the categories concerning standards for each regulation. Results can be reported in terms of frequencies, averages, and percentages as they relate to the total number of labs surveyed. Cross-break analysis may be used, that is relating the standard to school or the kinds of labs being surveyed, e.g., wood, metal, auto, cooking arts. For example, a table shell could be constructed as follows:

Cross-Break Analysis
(By School or By District)

Safety Regulations	Wood Lab	Cooking Arts	Auto Lab	Summaries by Standard	
				Total	Average
Standard 1	2 Being Improved	3 Meets Standard	4 Exceeds Standard	9	3
Standard 2					
Standard 3					
Total					
Average by Lab					

Scale: 1=Below Standard, 2=Being Improved, 3=Meets Standard, 4=Exceeds Standard

12. What kinds of conclusions and inferences can be supported by survey evidence?

Example: Depending on the data, it may be that as a district the labs generally meet safety standards as judged by the lab teacher, but not as judged by the outside consultant. This discrepancy in ratings must be further examined by the supervisors in charge of conducting the study. It may be that the major differences in lab safety standards vary by school and this finding would require a different set of recommendations and actions. The point is that the data must support any conclusions, inferences or recommendations made from the survey research.

The monograph prepared by the Illinois Occupational Curriculum Project provides a most useful checklist for conducting surveys (pp. Y 44, 45, 46). The important thing to remember is that surveys must be reported to the public they are designed to serve within a reasonable time period, in order to be useful. The findings should be disseminated as quickly as possible before the situation changes. At the local level, a survey which presents data collected more than five years ago must be questioned, and any decisions based on the data should be supported by other kinds of empirical evidence that the description given in the survey is still accurate.

The Use of Surveys for the Occupational Educator

The occupational educator conducts a survey every time he gives a test, judges the students' products or takes an inventory of his materials. In each instance information about the current status of the student or the learning setting or the progress toward course goals is needed before the educator can make a decision concerning his own professional and personal behavior. The twelve steps cited above are simply a way of providing a systematic procedure for collecting the information, analyzing it and then relating those findings to the decision making process.

For example, assume that the survey on the use of the rotary calculator conducted by the business machines teachers mentioned earlier revealed that less than five percent of the businesses in their local community were using rotary calculators and 95 percent were using electronic devices. The obvious implications of this finding are twofold. First, electronic calculators must be purchased for the office machines labs and, second, the instructional unit on the use of calculators must be changed to teach students how to work the electronic units. The administration confronted with such compelling data would find it very difficult to ignore the requests for new materials and curriculum change from these occupational educators.

Again, assume that an occupational educator working in an auto lab conducts a survey of the local auto dealers and repair shops to determine what percentage of the cars, no more than three years old, are equipped with pollution control devices such as catalytic convertors. The information is needed so the occupational educator can make decisions about the content of the texts, the curriculum and other materials to be requested to prepare students for working in this field.

Finally, the chairperson of the home economics department has been informed of a drop in enrollment in the number of students requesting courses in this area. In order to determine why, a two prong survey is conducted, one which surveys the students' attitudes about and knowledge of the courses and another which taps students' evaluation of faculty instruction in the home economics courses. This approach gives the chairperson information about the nature of the students and the nature of the faculty, in order to better accommodate changing conditions.

Exercises

1. What kinds of descriptive and status information will you need to plan your program next year? (1,3)
2. Design a survey instrument to measure student attitudes toward the text you are using. (2,3,4)
3. Administer the instrument and analyze the data. Will you order the same text book next year? (5,6)